George van Driem

The Tale of Tea

A Comprehensive History of Tea from Prehistoric Times to the Present Day

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By

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Preface

The tea trade is responsible for paper money, the Opium Wars and the existence of Hong Kong. Tea was a decisive factor in the Acts of Navigation, the Anglo-Dutch wars and the American war of independence. The economy of tea was crucial to the economy and military defences of Táng and Sòng dynasty China and moulded the evolution of Chinese art and culture. The tea trade with the West played a role in sowing the seeds of the Tàipíng rebellion and so ultimately of the Chinese revolution led by Dr. Sun Yat-sen and the subsequent Communist rebellion led by Máo Zédōng.

Global tea production is well in excess of four million metric tonnes annually, and after water tea has often been claimed to be the most drunk beverage on the planet.[1] Over three and a half million hectares of the earth's surface is covered by tea plantations. Roughly two thirds of the tea traded is black tea, and about one third is green tea. Although tea is an ancient commodity, most of the black tea dominating the global market today is a recent invention.

The three largest black tea producing countries are India, Kenya and Sri Lanka, which together account for roughly 70% of all the world's tea production. Yet there were no tea plantations in these three countries when the Dutch and the English first went to war about taxes on tea in the 17th century. Japan is famous for its green tea, but the world's largest importer of green tea is the North African kingdom of Morocco. Today some take their tea with lemon, and others take their tea with milk, but the Tibetan custom of salting tea is ancient, and the Burmese custom of eating tea is a practice of even greater antiquity, and the two practices are historically related.

The history of tea is the saga of globalisation. Yet much of the popular thinking about tea and much popular tea history is fraught with myth and inaccuracy. Consequently, the present historical account relates much now recondite knowledge which will hopefully one day be more widely known. This tale of tea tells the story of the hidden origins of tea in the eastern Himalayan highlands and takes us across seas and deserts to the emergence of today's globalised beverage in its many modern guises.

Pokharā, 4 February 2018

1 The claim appears first to have appeared in print in 1911 in an instalment on tea in the eleventh edition of the *Encyclopaedia Brittanica*, where John McEwan ventured to claim: 'Next to water, tea is the beverage most widely in use throughout the world as regards the number of its votaries as well as the total liquid quantity consumed' (John McEwan. 1911. *Encyclopaedia Britannica; A Dictionary of Arts, Sciences, Literature and General Information, 11th Edition*. Cambridge: University Press, Vol. 26, p. 483).

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CHAPTER 1

The Primordial Origins of Tea

A Brief Ethnolinguistic Preamble

The true origins of tea are shrouded in the mists of time and can only be told in the now muted languages once spoken in the Eastern Himalayan region in some distant past. This region was identified as the cradle of tea in 1916 by the Dutch botanist Combertus Pieter Cohen Stuart, who used the species name *Camellia theifera* for tea. He wrote that the homeland of the wild tea tree lay 'in the inland of Indochina and Burma' and in China's 'borderlands, the mysterious Tibetan mountain-walls and the scarcely explored jungles of Southern Yunnan and Upper Indochina', and that the custom of tea drinking no doubt derived 'from the inmost provinces of China, which surround the ante-Tibetan mountains'.[1] Modern research tells us that not just tea, but in all probability rice,[2] taro,[3] bananas, citrus fruits and other cultigens originated in this vast swathe of territory.

These lush lands to the south and east of the Himalayas are known as the Eastern Himalayan corridor. The fecund region associated with the eastern half of highland Asia comprises Nepal, Sikkim, Bhutan, Assam, northeastern India, southeastern Tibet, northern Burma, Yúnnán, Sìchuān, northern Thailand, Laos and Tonkin and served as one of the more copious ancient habitats for anatomically modern humans. The lofty Himalayas themselves border the northern frontier of this corridor. The extent of the original tea homeland is shown in Map 1.

The name 'Himalayas' comes from the Sanskrit *himālaya* हिमालय 'abode of snow', composed of the roots *himá* हिम 'snow' and *ālaya* आलय 'abode'. The name first entered the English language when William Kirkpatrick recorded his observations about the 'Himma-leh chain' during a visit to Nepal in 1793.[4] The British colonel made his visit at the invit-

1 Combertus Pieter Cohen Stuart. 1919. 'A basis for tea selection', *Bulletin du Jardin Botanique de Buitenzorg* (Troisième Série), I (4): 193–320. The quotes are taken from pp. 209, 228–229 of the article in English, which is based directly on Cohen Stuart's 1916 University of Utrecht doctoral dissertation *Voorbereidende onderzoekingen ten dienste van de selektie der theeplant* (Amsterdam: J.H. de Bussy), which was also published the same year at Buitenzorg in the *Mededeelingen van het Proefstation voor Thee*, XL: 1–328. In order to complete his studies at Utrecht, Cohen Stuart relinquished his post as head of the experimental station for tea at the Botanical Garden in Java at Buitenzorg and embarked for Holland on the 31st of December 1913.

2 George van Driem. 2012. 'The ethnolinguistic identity of the domesticators of Asian rice', *Comptes Rendus Palévol*, 11 (2): 117–132; George van Driem 2017. 'The domestications and the domesticators of Asian rice', pp. 183–214 in Martine Robbeets and Alexander Savelyev, eds., *Language Dispersal Beyond Farming*. Amsterdam: John Benjamins; Wensheng Wang, Ramil Mauleon, Zhiqiang Hu, Dmytro Chebotarov, Shuaishuai Tai, Zhichao Wu, Min Li, Tianqing Zheng, Roven Rommel Fuentes, Fan Zhang, Locedie Mansueto, Dario Copetti, Millicent Sanciangco, Kevin Christian Palis, Jianlong Xu, Chen Sun, Binying Fu, Hongliang Zhang, Yongming Gao, Xiuqin Zhao, Fei Shen, Xiao Cui, Hong Yu, Zichao Li, Miaolin Chen, Jeffrey Detras, Yongli Zhou, Xinyuan Zhang, Yue Zhao, Dave Kudrna, Chunchao Wang, Rui Li, Ben Jia, Jinyuan Lu, Xianchang He, Zhaotong Dong, Jiabao Xu, Yanhong Li, Miao Wang, Jianxin Shi, Jing Li, Dabing Zhang, Seunghee Lee, Wushu Hu, Alexander Poliakov1, Inna Dubchak, Victor Jun Ulat, Frances Nikki Borja, John Robert Mendoza, Jauhar Ali, Jing Li, Qiang Gao, Yongchao Niu, Zhen Yue, Ma. Elizabeth B. Naredo, Jayson Talag, Xueqiang Wang, Jinjie Li, Xiaodong Fang, Ye Yin, Jean-Christophe Glaszmann, Jianwei Zhang, Jiayang Li, Ruaraidh Sackville Hamilton, Rod A. Wing, Jue Ruan, Gengyun Zhang, Chaochun Wei, Nickolai Alexandrov, Kenneth L. McNally, Zhikang Li and Hei Leung. 2018. 'Genomic variation in 3,010 diverse accessions of Asian cultivated rice', *Nature*, 557: 43–49.

3 Peter J. Matthews, Peter L. Lockhart and Ibrar Ahmed. 2017. 'Phylogeography, ethnobotany and linguistics: issues arising from research on the natural and cultural history of taro, *Colocasia esculenta* (L) Schott', *Man In India*, 97 (1): 353–380.

4 William Kirkpatrick. 1811. *An Account of the Kingdom of Nepaul, being the Substance of Observations made during a*

MAP 1 The original tea homeland

ation of the Gorkhali government in the aftermath of the 2nd Gorkhali invasion of Tibet, which had been launched in September 1791 but had gone terribly awry the following year. Because there are so many mountain peaks reaching up above the snow line, which in the Himalayas lies at an elevation of about 5½ kilometres, the term ‘Himalayas’ soon became a *plurale tantum* in English, like *trousers* or *scissors*. Laymen and scholars attempted to ascertain the extent of the greatest mountain range on our planet, and some have sought to define or arbitrarily to segment the Himalayas in various ways. However, in terms of the tectonic orogeny of this gigantic chain the answer is clear.

In the west, the Himalayas are punctuated by the Tirič Mīr ترچ میر in the Hindu Kush at 7708 m and K2 in the Qarāqoram قراقرم at 8661 m. In the east, the Himalayas are punctuated by Mi-ñag Gaṅs-dkar མི་ཉག་གངས་དཀར་ [mi̱ ɲāˀ kʰã̱kāː][5] at 7556 m

Mission to that Country in the Year 1793. London: William Miller (p. 57 et seq.).

5 Modern standard Central Tibetan pronunciation is provided in the notation of the International Phonetic Association between square brackets, whereby a macron above the vowel represents a high register tone [ā ē ī ɔ̄ ū ɛ̄ œ̄ ȳ], a macron below the vowel a low register tone [a̠ e̠ i̠ ɔ̠ u̠ ɛ̠ œ̠ y̠], a circumflex accent a high falling tone [â ê î ɔ̂ û] and a grave accent a low falling tone [à è ì ɔ̀ ù]. The contour tones are less frequent and tend to occur on syllables which, in their traditional orthographic representations, end in ⟨-gs⟩ or ⟨-n̂s⟩, e.g. ljags ལྗགས་ [tɕà] ‘tongue’ (honorific). Tibetan spelling in the traditional script is transliterated using the conventional Roman symbols: *k, kh, g, n̂, c, ch, j, ñ, t, th, d, n, p, ph, b, m, ts, tsh, dz, w, ź, z, ḥ, y, r, l, ś, s, h, a, i, u, e, o*. The practice of representing the Tibetan letter འ with an apostrophe, introduced by Turrell Wylie, whose system of transliteration was qualified by Robert Shafer as ‘provincial’, is eschewed as a linguistically unfortunate choice, because an apostrophe suggests a glottal stop, whereas the Tibetan letter in question actually signals a relaxed state of the glottis, and because Wylie chose a diacritic to represent a speech sound that the Tibetan script represents with

MAP 2
Geographical distribution of Trans-Himalayan languages
MAPS 2 THROUGH 9 ARE ADAPTED FROM VAN DRIEM 2015, WITH THE GRACIOUS PERMISSION OF COLIN PENDRY AND GEORG MIEHE

and Gañs dKar-po གངས་དཀར་པོ་ [kʰã kā:pɔ̄][6] at 6740 m in what is historically eastern Tibet and by Khakabo Razi ခါကာဘိုရာဇီ in northern Burma at 5881 m.[7]

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a full letter (cf. Robert Shafer. 1963. *Bibliography of Sino-Tibetan Languages*. Wiesbaden: Otto Harrassowitz, Vol. 2, p. 124).

6 An alternative name for Gañs dKar-po གངས་དཀར་པོ་ [kʰã kā:pɔ̄] 'white snow-capped peak' is Kha-ba dKar-po ཁ་བ་དཀར་པོ་ [kʰāwā kā:pɔ̄] 'white snows'.

7 Burma did not actually change its name to 'Myanmar'. Rather, in 1989 the military junta decided that speakers of English would henceforth call the country 'Myanmar'. Burma is known in literary Burmese as [mʲãma] မြန်မာ, but in everyday speech the name of the country is written and pronounced [bəma] ဗမာ. Both the everday colloquial name [bəma] ဗမာ and the literary form [mʲãma] မြန်မာ are pronounced with two mid level tones in clear phonation. During the Dutch East India Company presence in Burma from 1634 to 1680, Dutchmen attempted to capture the colloquial Burmese pronunciation in Dutch orthography as *Birma*, whereby the digraph *ir* represented an attempt to capture the pronunciation of the schwa in ဗမာ [bəma]. Accordingly, the French write *Birmanie* and the Russians write Бирма (i.e. Birma). From the 17th century onward, Germans wrote *Birma*, just as in Dutch, but some German scholars chose to write *Barma*, and Czech took the names *Barma* and *barmština* 'Burmese' from the German. The Thai call the country of their western neighbours [bəma] พม่า, and the Nepali names for Burma and Burmese are *barmā* बर्मा and *barmelī* बर्मेली. The English succeeded the Dutch in Burma in the late 17th century and chose the spelling 'Burma' to capture what they heard, which is not a bad approximation of what Burmese people actually say. In the English spelling, the digraph *ur* replaced Dutch *ir* and German *ar* to represent the schwa sound. Ironically, the new-fangled German spellings *Burma* and *Burmesisch* were only invented under the German Democratic Republic in the late 1970s. These new spellings introduced the sound /u/ in German, just like the specious

The Himalayas run over 3600 kilometres from the Hazārahjāt هزاره جات highlands in the west to the Liángshān 涼山 hills in southern Sìchuān in the east. The Himalayas form no natural watershed, and many of the rivers are of greater antiquity than the mountains themselves. The Kālī Gaṇḍakī काली गण्डकी, which flows right through the Himalayan range just beneath the Dhaulāgirī धौलागिरी, which towers above to a height of 8167 m, has carved out the deepest river valley on the face of the planet. This invagination at the very heart of the Himalayan range, prominently visible to any airplane passenger flying across the Gangetic plain, bisects the Himalayas into two halves of roughly equal length. The eastern half of this range forms the elongated vertebral column of the Eastern Himalayan corridor.

In some anthropological circles, it has recently become fashionable to refer to the Eastern Himalayan corridor as *Zomia*. This term was coined in 2002 by Willem van Schendel, who composed this name on the basis of the Mizo-Kuki-Chin roots for *zo* 'hill' and *mi* 'person'. One of the aims of his paper was to criticise the traditional areal disciplines in the humanities in the context of the organisational reshuffling within Dutch universities that was going on at the time, as perennially dictated from The Hague.[8] His otherwise obscure paper was rescued from oblivion by an American political anthropologist named James Scott, who popularised the term *Zomia* and attributed the ethnolinguistic diversity of the eastern Himalayan highlands to a survival strategy of ethnic minorities to head for the hills to escape the central authority of nation states.[9]

Although communities have at times in the course of history fled to escape being subdued and enslaved by powerful states and tyrannical polities, historical linguistics and population genetics show us that the ethnolinguistic diversity of the Eastern Himalayan corridor is of hoary antiquity, whereas the emergence of nation states is a comparatively recent historical phenomenon.

In stark contrast to the idyll of an isolated Zomian refuge, the topographically complex and ecologically diverse Eastern Himalayan corridor served both as a conduit and as a staging area for population movements in prehistory, not just for anatomically modern humans but also for *Homo erectus* before us, and before that for other earlier hominins as well.[10] In the Holocene period, the

vowel in German *Dschungel*, which reflects a naïve German reading pronunciation of English *jungle*, which in turn comes from Hindi *jaṅgal*. The final letter *r* in the military junta's spelling 'Myanmar' corresponds neither to any consonant sound, past or present, in the Burmese name for the country, nor to any written element in the native Burmese orthography. The French and Russians, who are less susceptible than the English to having their language legislated by foreigners, still say and write *Birmanie* and *Birma* respectively. In English, many writers continue to use the conventional English names *Burma* and *Burmese*.

8 Willem van Schendel. 2002. 'Geographies of knowing, geographies of ignorance: jumping scale in Southeast Asia', *Environment and Planning D: Society and Space*, 20: 647–668.

9 James C. Scott. 2009. *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*. New Haven: Yale University Press.

10 Human fossils from Morocco, dated to about 195,000 years ago, affirmed what palaeontologists had long anticipated by filling in a geographical gap where there should not have been one and underscoring the variety of humans which once existed. *Homo naledi* lived in South Africa as recently as 300,000 years ago, whereas the miniature *Homo floresiensis*, whose ancestors may have reached the island of Flores as early as 700,000 years ago, survived until about 60,000 years ago, when people like ourselves came to the island (Peter J. Brown, Thomas Sutikna, Michael J. Morwood, Raden Panji Soejono, Jatmiko, E. Wayhu Saptomo and Rokus Awe Due. 2004. 'A new small-bodied hominin from the Late Pleistocene of Flores, Indonesia', *Nature*, 431:1055–1061; Adam Brumm, Fachroel Aziz, Gert D. van den Bergh, Michael J. Morwood, Mark W. Moore, Iwan Kurniawan, Douglas R. Hobbs and Richard Fullagar. 2006. 'Early stone technology on Flores and its implications for *Homo floresiensis*', *Nature*, 441: 624–628; Dean Falk, Charles Hildebolt, Kirk Smith, William Jungers, Susan Larson, Michael J. Morwood, Thomas Sutikna, Jatmiko, E. Wahyu Saptomo and Fred Prior. 2009. 'The type specimen (LB1) of Homo *floresiensis* did not have Laron syndrome', *American Journal of Physical Anthropology*, 140 (1): 52–63; Leslie C. Aiello. 2010. 'Five years of *Homo floresiensis*', *American Journal of Physical Anthropology*, 142 (2): 167–179; Thomas

most recent epoch, the lush mid hill habitats of the Eastern Himalayan corridor served not just as a thoroughfare, but also as a major cradle of ethnogenesis.[11]

When our ancestors wandered out of Africa, facts of geography dictated where they might go. Several waves of migration emerged from Africa, and the genes of several distinct varieties of ancient *Homo* survive in us, including the Neanderthals and the Denisovans.[12] Although a few of our ancestors branched off across Asia Minor into Europe, and some ventured into Siberia, the largest wave swept across South Asia and headed east. The descendants of those who passed through the Eastern Himalayan corridor and crossed the Brahmaputra continued onward to populate East Asia, Southeast Asia, Oceania, Siberia and even the Americas and Lappland.

In order to gain a proper understanding of the history of tea, it is important to keep in mind that the ethnolinguistic diversity characterising the many peoples inhabiting the Eastern Himalayan corridor is ancient, and that China, Laos,

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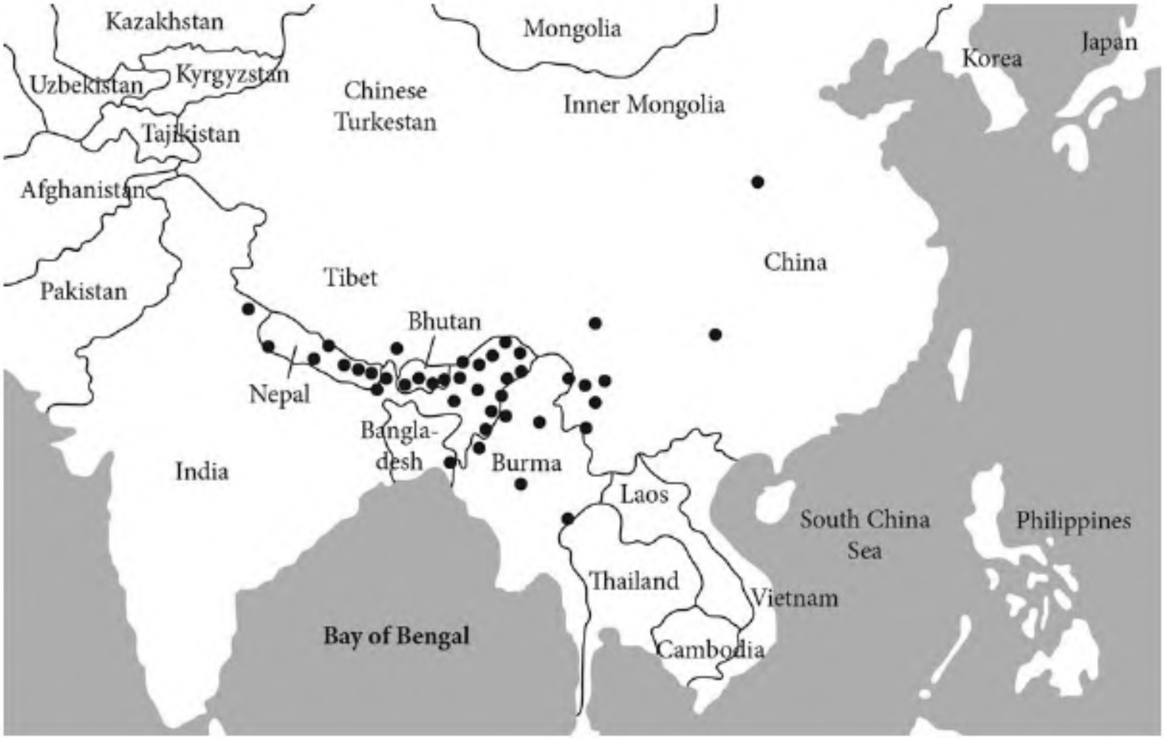
Sutikna, Matthew W. Tocheri, Michael J. Morwood, E. Wahyu Saptomo, Jatmiko, Rokus Due Awe, Sri Wasisto, Kira E. Westaway, Maxime Aubert, Bo Li, Jian-xin Zhao, Michael Storey, Brent V. Alloway, Mike W. Morley, Hanneke J.M. Meijer, Gerrit D. van den Bergh, Rainer Grün, Anthony Dosseto, Adam Brumm, William L. Jungers and Richard G. Roberts. 2016. 'Revised stratigraphy and chronology for *Homo floresiensis* at Liang Bua in Indonesia', *Nature*, 532: 366–369; Anne Dambricourt Malassé, Anne-Marie Moigne, Mukesh Singh, Thomas Calligaro, Baldev Karir, Claire Gaillard, Amandeep Kaur, Vipnesh Bhardwaj, Surinder Pal, Salah Abdessadok, Cécile Chapon Sao, Julien Gargani, Alina Tudryn and Miguel Garcia Sanz. 2016. 'Intentional cut marks on bovid from the Quranwala zone, 2.6 Ma, Siwalik Frontal Range, northwestern India', *Comptes Rendus Palévol*, available online from 28 January 2016; Gerrit D. van den Bergh, Yousuke Kaifu, Iwan Kurniawan, Reiko T. Kono, Adam Brunn, Erik Setiyabudi, Fachroel Aziz and Michael J. Morwood. 2016. '*Homo floresiensis*-like fossils from the early Middle Pleistocene of Flores', *Nature*, 534 (7606): 245–248; Adam Brumm, Gerrit D. van den Bergh, Michael Storey, Iwan Kurniawan, Brent V. Alloway, Ruly Setiawan, Erick Setiyabudi, Rainer Grün, Mark W. Moore, Dida Yurnaldi, Mika R. Puspaningrum, Unggul P. Wibowo, Halmi Insani, Indra Sutisna, John A. Westgate, Nick J.G. Pearce, Mathieu Duval, Hanneke J.M. Meijer, Fachroel Aziz, Thomas Sutikna, Sander van der Kaars, Stephanie Flude and Michael J. Morwood. 2016. 'Age and context of the oldest known hominin fossils from Flores', *Nature*, 534 (7606): 249–253; Lee R. Berger, John Hawks, Paul H.G.M. Dirks, Marina Elliott and Eric M. Roberts. 2017. '*Homo naledi* and Pleistocene hominin evolution in subequatorial Africa', *eLife*, 6: e24234; Jean-Jacques Hublin, Abdelouahed Ben-Ncer, Shara E. Bailey, Sarah E. Freidline, Simon Neubauer, Matthew M. Skinner, Inga Bergmann, Adeline Le Cabec, Stefano Benazzi, Katerina Harvati and Philipp Gunz. 2017. 'New fossils from Jebel Irhoud, Morocco and the pan-African origin of *Homo sapiens*', *Nature*, 546 (7657): 289–292; Daniel Richter, Rainer Grün, Renaud Joannes-Boyau, Teresa E. Steele, Fethi Amani, Mathieu Rué, Paul Fernandes, Jean-Paul Raynal, Denis Geraads, Abdelouahed Ben-Ncer, Jean-Jacques Hublin and Shannon P. McPherron. 2017. 'The age of the hominin fossils from Jebel Irhoud, Morocco, and the origins of the Middle Stone Age', *Nature*, 546 (7657): 293–296).

11 George van Driem. 2015. 'Health in the Himalayas and the Himalayan homelands', pp. 159–192 in Charles Ramble and Ulrike Roesler, eds., *Tibetan and Himalayan Healing*. Kathmandu: Vajra Publications; Sophie Hackinger, Thirsa Kraaijenbrink, Yali Xue, Massimo Mezzavilla, Asan, George van Driem, Mark A. Jobling, Peter de Knijff, Chris Tyler-Smith and Qasim Ayub. 2016. 'Wide distribution and altitude correlation of an archaic high-altitude adaptive *EPAS1* haplotype in the Himalayas', *Human Genetics*, 135 (4): 393–402.

12 Morten Rasmussen, Xiaosen Guo, Yong Wang, Kirk E. Lohmueller, Simon Rasmussen, Anders Albrechtsen, Line Skotte, Stinus Lindgreen, Mait Metspalu, Thibaut Jombart, Toomas Kivisild, Weiwei Zhai, Anders Eriksson, Andrea Manica, Ludovic Orlando, Francisco de la Vega, Silvano Tridico, Ene Metspalu, Kasper Nielsen, María C. Ávila-Arcos, J. Víctor Moreno-Mayar, Craig Muller, Joe Dortch, M. Thomas P. Gilbert, Ole Lund, Agata Wesolowska, Monika Karmin, Lucy A. Weinert, Bo Wang, Jun Li, Shuaishuai Tai, Fei Xiao, Tsunehiko Hanihara, George van Driem, Aashish R. Jha, François-Xavier Ricaut, Peter de Knijff, Andrea B. Migliano, Irene Gallego-Romero, Karsten Kristiansen, David Lambert, Søren Brunak, Peter Forster, Bernd Brinkmann, Olaf Nehlich, Michael Bunce, Michael Richards, Ramneek Gupta, Carlos Bustamante, Anders Krogh, Robert A. Foley, Marta Mirazón Lahr, François Balloux, Thomas Sicheritz-Pontén, Richard Villems, Rasmus Nielsen, Wang Jun, Eske Willerslev. 2011. 'An aboriginal Australian genome reveals separate human dispersals into Asia', *Science*, 334 (6052): 94–98.



MAP 3 Geographical distribution of the major Trans-Himalayan linguistic subgroups. Each dot represents not just one language, but the historical geographical centre of each of 41 major linguistic subgroups, each comprising anywhere between one language to several dozen closely related languages.

Burma and India are modern nation states which did not always exist. Only a portion of the ancient homeland of tea is situated within the borders of modern China, and by the same token only a portion of the area of what today is China was culturally Chinese in the past. For much of history, the Chinese occupied only a small portion of the territory of the expansive modern political entity that today is China. Within this area, the Chinese were often ruled by, or on the run from, invading neighbours with a less genteel lifestyle than that which had developed at the Chinese court. This was especially true during the Táng and Sòng dynasties, the period stretching from the 7th to the 13th century, when tea began to evolve into the beverage that we recognise today.

The famous Chinese archaeologist Kwang-chih Chang (*Zhāng Guāngzhí* 張光直 1931–2001) cautioned us to be wary of anachronisms in applying the label 'Chinese' to cultures and peoples of the distant past.[13] It is anachronistic to call certain Neolithic archaeological complexes 'Chinese' just as we would not regard the Palaeolithic art on the walls of the caverns of Lascaux as specimens of early French painting, nor would we refer to the Bactria Margiana cultural complex as a Soviet Central Asian Bronze Age culture. Another caveat that must be kept in mind when thinking about prehistory is that the past took such an unimaginably long time, as some are evidently quite prone to overlook. Therefore, we must carefully distinguish the numerous distinct slices of the past that lay far apart from each other in time.

Even in respecting these caveats, we shall still see that China, properly speaking, did in historical times give birth to the beverage which the world

13 Chang Kwang-Chih (i.e. Zhāng Guāngzhí). 1986. *The Archaeology of Ancient China* (4th edition). New Haven, Connecticut: Yale University Press (p. 242).

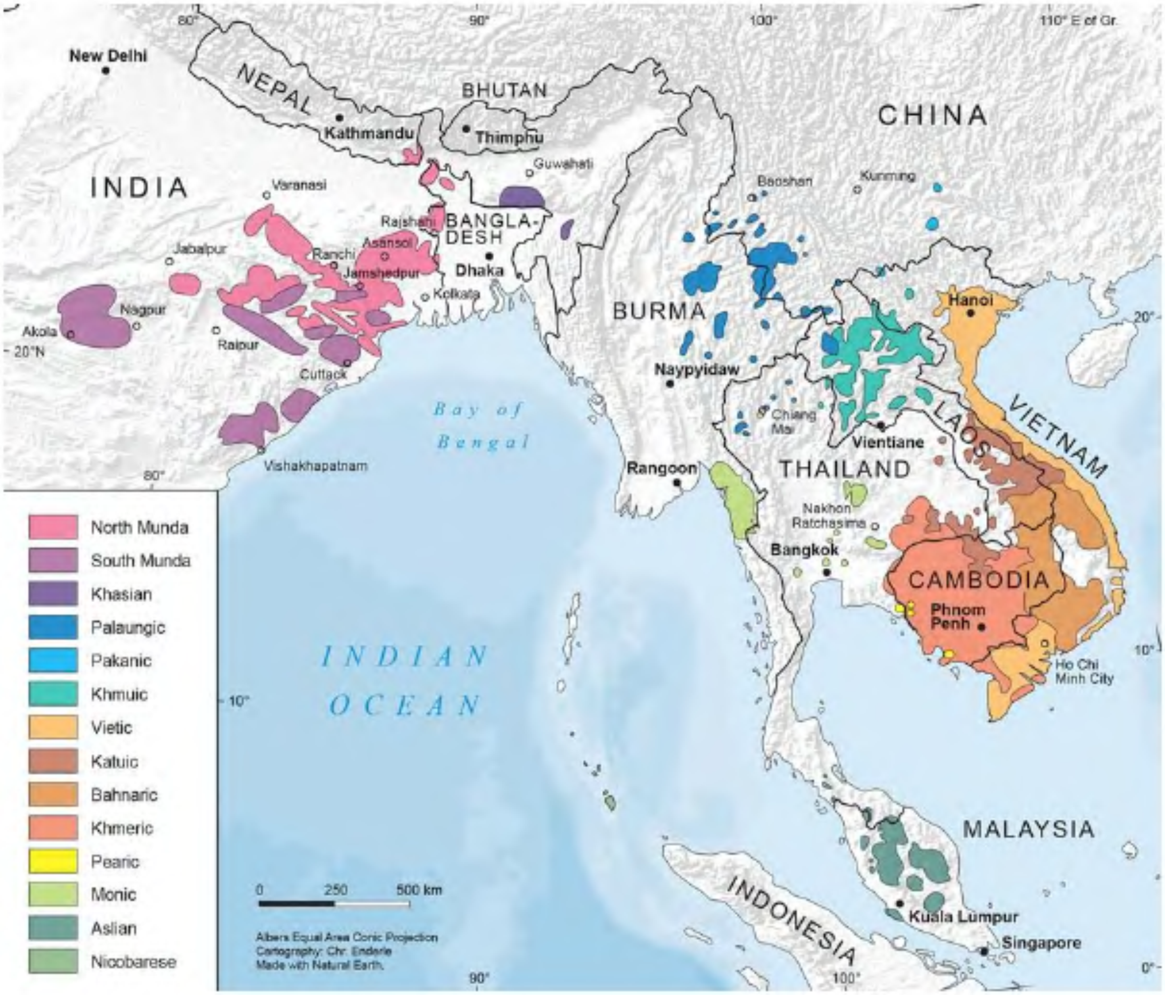
MAP 4 Geographical distribution of Hmong-Mien languages. The Hmong-Mien migrated into mainland Southeast Asia relatively recently, but historically Hmong-Mien peoples live in the area south of the Yangtze in what today is southern China.

knows today as tea. Yet the primordial origins of tea lay beyond the perimeter of what constituted the old Chinese cultural area. The original tea homeland overlaps to a large extent with the Eastern Himalayan corridor. On the other hand, the precise geographical contours of Zomia are continuously being redefined in response to the vagaries of current anthropological fashion.

The tea homeland can be defined as a region that defies the historical accident of modern political borders and stretches from central Nepal across Sikkim, Bhutan, Assam, northeastern India, upper Burma, southeastern Tibet, southwestern China, northern Thailand and Laos as far as Tonkin.[14] This lush, mountainous and ethnolinguistically complex region is where tea grows wild and free and where tea culture was first developed.

This region served as a thoroughfare for the ancient waves of migration that transpired at various time depths in the past and led to the peopling of Asia. In the 19th century, historical linguists such as Julius von Klaproth and Max Müller stressed that the linguistic affinity and the biological ancestry of human populations were quite independent quantities, yet in face of the prevailing intellec-

14 Maria Cândida Liberato. 2012. 'O chazeiro: Sistemática e distribução geográfica', *Revista Oriente*, 21: 88–98.



MAP 5 Geographical distribution of Austroasiatic languages

tual fashions of the day their admonitions often fell on deaf ears.[15] Already in the 19th century, Müller stressed that attempts should be made to compare, correlate and contrast the results of historical linguistics and the findings of physical anthropology, which today has primarily taken on the form of molecular genetics, only after the distinct scientific disciplines had first arrived at their findings independently.

15 Julius Heinrich von Klaproth. 1823. *Asia Polyglotta*. Paris: J.M. Eberhart; Friedrich Max Müller. 1872. *Über die Resultate der Sprachwissenschaft: Vorlesung gehalten in der kaiserlichen Universitæt zu Strassburg am XXIII. Mai MDCCCLXXII*. Strassburg: Karl J. Trübner, und London: Trübner & Co.

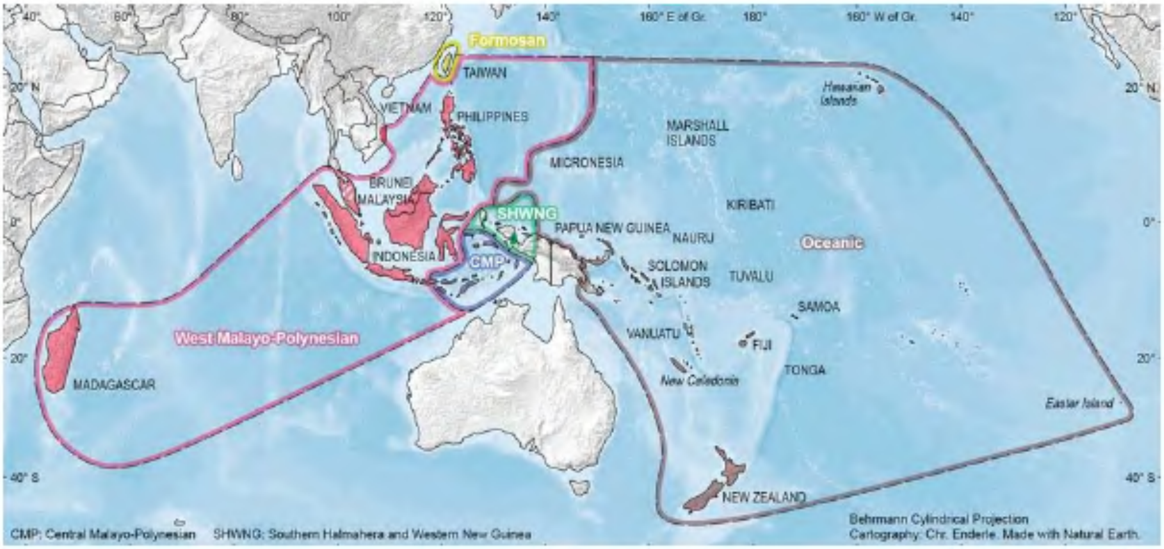
Historical linguistics, population genetics and archaeology each represent different windows on the past. Genetic markers do not represent linguistic evidence, and neither do phonologically reconstructed verb roots tell us anything about the biological affinity of people speaking a particular group of related languages. Not only is the language that we happen to speak independent of who happened to be our forefathers or of the material culture or subsistence strategy which our ancestors may have had, moreover each of us has multiple ancestries that embody countless genetic lineages. Furthermore, the linguistically reconstructible past pertains to a shallower time depth than the more distant episodes of our pre-

MAP 6
Geographical distribution of Kradai languages. The spread of Southwestern Tai languages into mainland Southeast Asia first took place in historical times. Austroasiatic languages of the Monic group were still spoken in the Dvāravatī kingdom that flourished in what today is central Thailand until the 13th century.

history that are accessible to population geneticists. Nonetheless, with all these caveats in mind, the quest for correlations between the geographical distribution and phylogeny of major Asian language families and the occurrence of particular genetic markers found in the populations speaking these languages today has proved in many cases to be astonishingly fruitful.

After the discovery of the molecular identity of genes in the Cavendish lab in Cambridge by Francis Crick, James Watson and Rosalind Franklin in 1953, biologists began to look to see whether the languages that people speak happened to correlate with any of their linguistic ancestries. In 1997, a Swiss and Italian team of geneticists observed that the linguistic affinity of entire populations generally correlated better with their paternal ancestries rather than with their maternal ancestries.[16] This

16 Estella Simone Poloni, Ornella Semino, Giuseppe Passarino, A.S. Santachiara-Benerecetti, I. Dupanloup, André Langaney and Laurent Excoffier. 1997. 'Human



MAP 7 Geographical distribution of Austronesian. The abbreviations CMP and SHWNG stand for the linguistic subgroups Central Malayo-Polynesian and South Halmahera West New Guinea respectively. Formosan on Táiwān comprises nine branches of the language family, whilst all other groups shown represent the later geographical dispersal of a single-branch, Malayo-Polynesian, which split into West Malayo-Polynesian and Central East Malayo-Polynesian. Subsequently Central East branched further into Central and East. Finally, East Malayo-Polynesian branched into the subgroups South Halmahera West New Guinea and Oceanic.

global pattern, which was later named the Father Tongue correlation, has been found to be ubiquitous but not universal, there being a number of notable exceptions such as in Baltistan and Hungary.[17]

The phylogeography of Y chromosomal haplogroups, which reflect the paternal inheritance of peoples, appears to be more recent in most places across the globe than does the mitochondrial landscape, which reflects the maternal lineages of populations. Processes and mechanisms that explain why this might be so include male-biased migrations, élite dominance and hypergamy and particularly the factor that the Estonian geneticist Toomas Kivisild at the University of Cambridge has wryly described as a Y chromosome linked pathology, i.e. the male predisposition to warfare and conquest. The global preponderance of the Father Tongue correlation allows us to infer that a mother teaching her children their father's tongue must have been a prevalent and recurrent pattern in linguistic prehistory.

The purely paternal and maternal lineages represent but two strands out of the myriad of biological ancestries of each individual's genetic make-

genetic affinities for Y chromosome P49a,f/*Taq*I haploptypes show strong correspondence with linguistics', *American Journal of Human Genetics*, 61: 1015–1035 (cf. the erratum published in 1998 in the *American Journal of Human Genetics*, 62: 1267); Estella Simone Poloni, Nicolas Ray, Stefan Schneider and André Langaney. 2000. 'Languages and genes: Modes of transmission observed through the analysis of male-specific and female-specific genes', pp. 185–186 in Jean-Louis Dessalles and Laleh Ghadakpour, eds., *Proceedings: Evolution of Language, 3rd International Conference 3–6 April 2000*. Paris: École Nationale Supérieure des Télécommunications.

17 George van Driem. 2007. 'The diversity of the Tibeto-Burman language family and the linguistic ancestry of Chinese', *Bulletin of Chinese Linguistics*, 1 (2): 211–270; George van Driem. 2007. 'Austroasiatic phylogeny and the Austroasiatic homeland in light of recent population genetic studies', *Mon-Khmer Studies*, 37: 1–14; George van Driem. 2008. 'The Shompen of Great Nicobar Island: New linguistic and genetic data, and the Austroasiatic homeland revisited', *Mother Tongue*, XIII: 227–247.

up, and future research may uncover telling correlations between the linguistic affinity of populations and salient autosomal markers. The neat correlations and the mismatches between the findings of population genetics and historical linguistics enable us to reconstruct the history of peopling of the Eastern Himalayan corridor. The ancient tea homeland overlaps to a great extent with this region, but the centre of gravity of the tea homeland lies several hundred leagues further eastward than the midpoint of the Eastern Himalayan corridor.

This region harboured the cradles of several of Asia's major language families, i.e. Austroasiatic, Trans-Himalayan,[18] Hmong-Mien[19] and Kradai.[20] The dispersal of these language families long antedates the domestication of tea and rice, a tale that has already been told in detail elsewhere.[21] The modern geographical distribution of these major language families is shown in Maps 2 to 7.[22] Stanley Starosta referred to the Hmong-Mien language family, shown in Map 4, by the name 'Yangtzean' after the Yangtze river because the comparatively modest internal linguistic diversity of Hmong-Mien suggested that these languages might represent the sole surviving branch of a once greater language family.[23]

18 Trans-Himalayan, the world's second most populous language family, was recognised by Julius von Klaproth in 1823 and was originally known as Tibeto-Burman. Proponents of an empirically unsupported family tree model have for several decades adhered to a mistaken phylogeny called 'Sino-Tibetan', but as of today no evidence has ever been adduced for that particular phylogenetic model. The new term Trans-Himalayan, with its agnostic phylogeny incorporating only recognised and newly validated subgroups, has been rendered into Chinese as 跨喜馬拉雅語系 *Kuà xǐmǎlāyǎ yǔxì* (George van Driem. 2014. 'Trans-Himalayan', pp. 11–40 in Nathan Hill and Thomas Owen-Smith, eds., *Trans-Himalayan Linguistics*. Berlin: Mouton de Gruyter; Wú Wǒ [無我]. 2015. 'Kuà xǐmǎlāyǎ yǔxì: Jiān lùn běn pǔxì shuō duì shǐqián rénqún qiānyí zhī qǐfā' ["The Trans-Himalayan language family: A neutral name based on the geography of prehistoric migrations of subgroups"], *Hàn Zàng Yǔ Xuébào*, 8: 10–20).

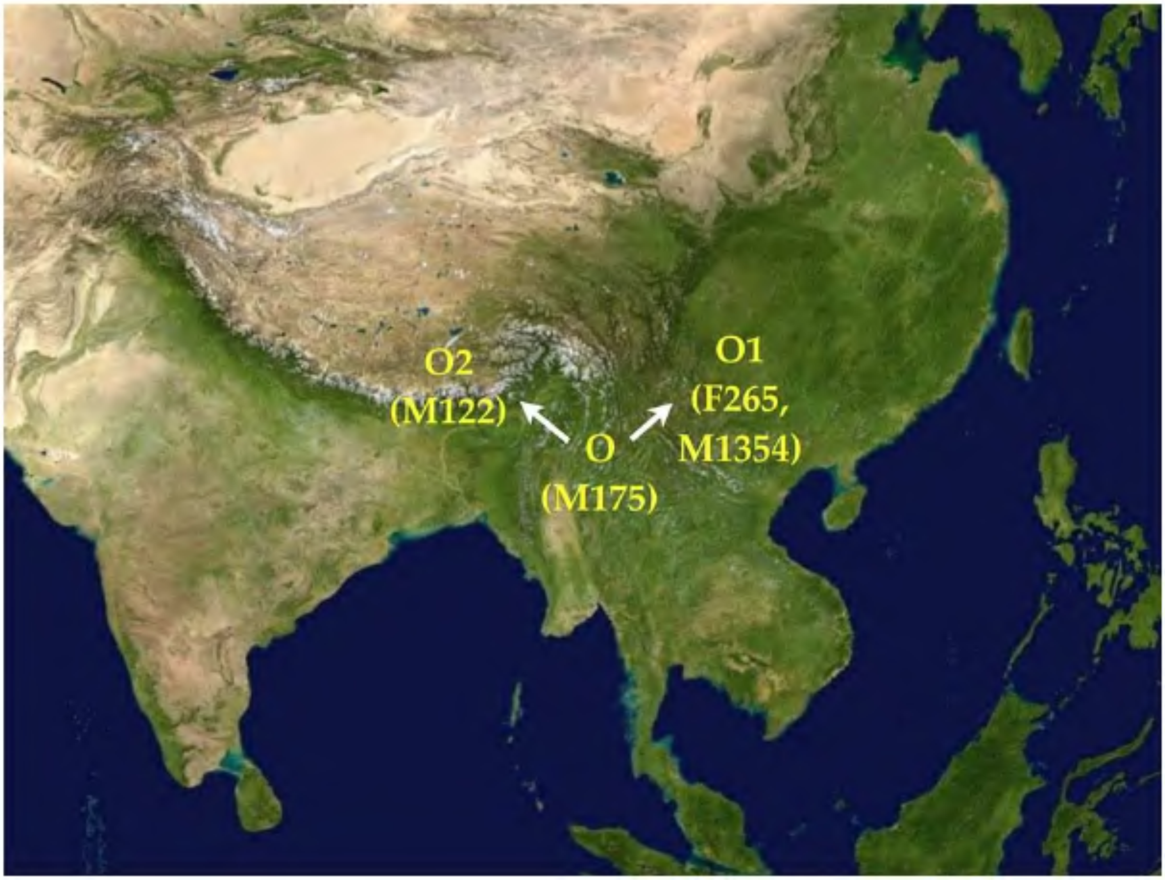
19 The Hmong-Mien language family is known by the Chinese name Miáo-Yáo 苗瑤 in the older literature. This label was abandoned in the 1980s, since the two Chinese ethnonyms making up the language family name were said historically to convey a pejorative connotation.

20 The name *Kradai* is composed of the reconstructed root denoting the ethnonym by which the language communities designated themselves in combination with the appropriate prefix. An old name for this language family in the linguistic literature is 'Daic'. The most prominent language in this family is Thai, in which the language family is known as Kradai กระได [kràdai]. The eminent linguist Weera Ostapirat วีระ โอสถาภิรัตน์ (許家平) once proposed the name [kʰâ:tʰai] ข้าไท in Thai, since this Siamese form is composed of the modern Thai reflexes by regular sound change of the two roots contained in the linguist's label *Kradai*, and this name would therefore have represented a natural Siamese *tadbhava* form, albeit a newly created one. However, the Thai term Kradai กระได has already established itself as the Thai name for the language family.

21 George van Driem. 2014. 'A prehistoric thoroughfare between the Ganges and the Himalayas', pp. 60–98 in Tiatoshi Jamir and Manjil Hazarika, eds., *50 Years after Daojali-Hading: Emerging Perspectives in the Archaeology of Northeast India*. New Delhi: Research India Press; George van Driem. 2015. 'The Himalayas as a prehistoric corridor for the peopling of East and Southeast Asia', pp. 318–325 in Georg Miehe and Colin Pendry, eds., *Nepal: An Introduction to the Natural History, Ecology and Human Environment in the Himalayas*. Edinburgh: Royal Botanic Garden Edinburgh.

22 Nicolas Michael Schorer collected and studied all extant data sources on the Dura language in Bern before conducting field research in the Dura homeland in central Nepal. In sequel to his grammatical and lexicographical documentation of the language, Schorer has adduced evidence which has subsumed Dura within the Magaric branch, thereby reducing the number of recognised linguistic subgroups in the Trans-Himalayan language family from 42 to 41, as reflected in this updated map (Nicolas Schorer. 2016. *The Dura Language: Grammar and Phylogeny*. Leiden: Koninklijke Brill).

23 Several editorial misrepresentations in Starosta's proposed posthumously published phylogeny of the East Asian linguistic phylum were rectified in one of my publications in 2005. My own recension of Starosta's East Asian family tree was presented in Benares in 2012 and appeared in print in 2014. (Stanley Starosta. 2005 [posthumous]. Proto-East-Asian and the origin and dispersal of languages of East and Southeast Asia and the Pacific, pp. 182–197 in Laurent Sagart, Roger

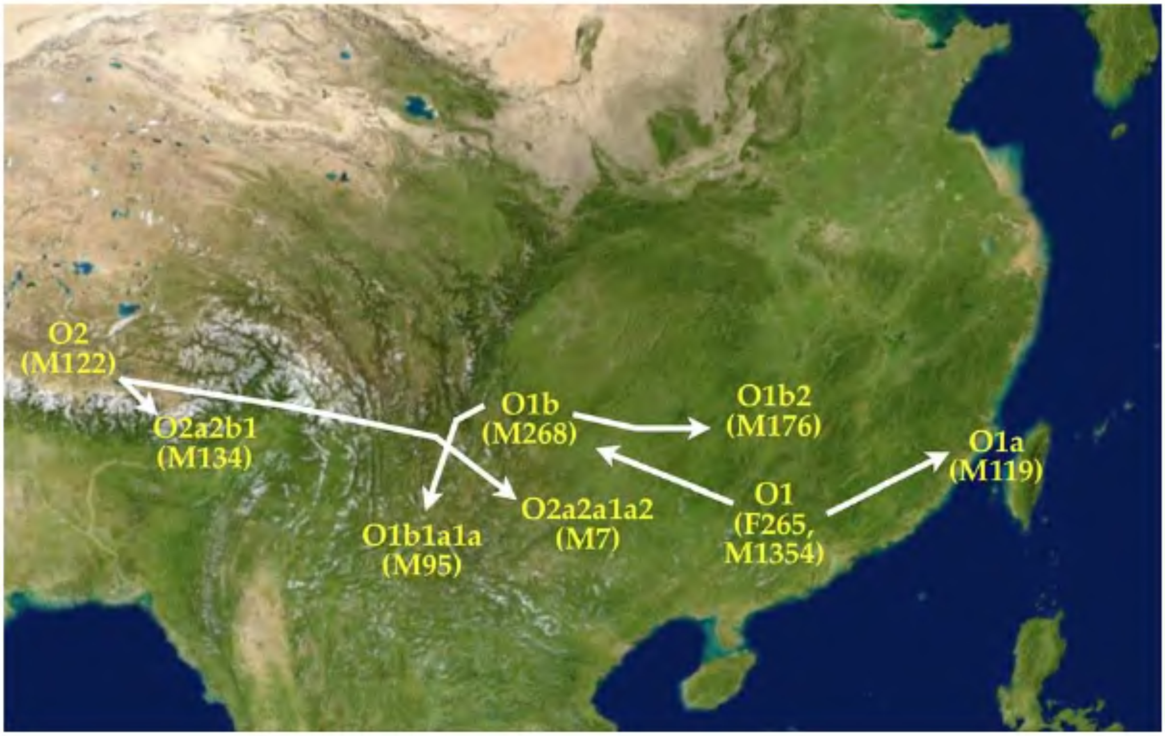


MAP 8 Millennia before the end of the last glacial maximum, the Y chromosomal haplogroup O (M175) split into the subclades O1 (F265, M1354) and O2 (M122). Molecular markers serve as tracers for the movements of paternal ancestors. As the resolution of the Y chromosomal tree is enhanced, haplogroup labels are updated to reflect our improved understanding of the phylogeny. Mutations numbers tend to remain unchanged as long as the molecular markers in question prove reliable in defining haplogroups. Refinements incorporated up to the 12th of May 2017 are represented here. Conventional haplogroup labels of the Y Chromosome Consortium are being replaced with the newer labels of the International Society of Genetic Genealogy used here.

Together the Kradai and Austronesian language families, shown in Maps 6 and 7 respectively, make up the Austro-Tai linguistic phylum. The hypothesis that Austronesian and Kradai might be related was first advanced by Gustave Schlegel.[24] The first sound historical linguistic evidence demonstrating this relationship through regular phonological correspondences and ordered

Blench and Alicia Sanchez-Mazas, eds., *The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics*. London: Routledge Curzon, p. 183; George van Driem. 2005. 'Sino-Austronesian vs. Sino-Caucasian, Sino-Bodic vs. Sino-Tibetan, and Tibeto-Burman as default theory', pp. 285–338 in Yogendra Prasada Yadava, Govinda Bhattarai, Ram Raj Lohani, Balaram Prasain and Krishna Parajuli, eds., *Contemporary Issues in Nepalese Linguistics*. Kathmandu: Linguistic Society of Nepal, p. 322; van Driem (2014: 69)).

24 Gustave Schlegel. 1901. 'Review: Elements of Siamese Grammar by O. Frankfurter, Ph.D., Bangkok: Printed at the American Presbyterian Mission Press, Leipzig, Karl W. Hiersemann, 1900', *T'oung Pao* (Série II) 11: 76–87; Gustave Schlegel. 1902. *Siamese Studies* (*T'oung Pao*, New Series 11, Volume 11, Supplement). Leiden: Brill.



MAP 9 As temperature and humidity increased after the last glacial maximum, paternal lineages branched into new subclades. Each event involved a linguistic bottleneck leading to language families that today are reconstructible as distinct linguistic phyla. The O1 (F265, M1354) paternal lineage split into the O1a (M119) and O1b (M268) subclades. The former moved eastward to the Fújiàn hill tracts and across the strait to Formosa, which so became the *Urheimat* of the Austronesians. Bearers of the paternal lineage O1b (M268) first cultivated Asian rice and spawned the subclades O1b1a1a (M95) and O1b2 (M176). Haplogroup O1b1a1a (M95) is the Proto-Austroasiatic paternal lineage, whereas the para-Austroasiatic fraternal clade O1b2 (M176) spread eastward, sowing seed along the way. The haplogroup O2 (M122) gave rise to the paternal subclades O2a2b1 (M134) and O2a2a1a2 (M7). The spread of the molecular marker O2a2b1 (M134) from the Eastern Himalaya serves as a tracer for the dissemination of people speaking languages of the Trans-Himalayan language family, whereas the paternal lineage O3a3b (M7) serves as a tracer for the spread of speakers of Hmong-Mien languages.

sound laws was presented by Weera Ostapirat.[25] The reconstructed dispersal of the Y chromosomal haplogroups that appear to be correlated with the prehistorical spread of these language families is illustrated in Maps 8 and 9.

Varieties of Tea Tree and Some Close Relatives

The tea tree is an evergreen plant of the species *Camellia sinensis*, native to the area which covers the verdant hills roughly between 20° and 30°N in northeastern India, the rugged Indo-Burmese borderlands, southeastern Tibet, northern Burma, northern Laos, northern Thailand and the mountainous Chinese provinces of Yúnnán and Sìchuān. This highland region of lush vegetation, rugged terrain, subtropical temperatures and regular rainfall comprises the vast and sprawling eastern fringe of the great Himalayan range. The original tea homeland is likely to be the area where rice,

25 Weera Ostapirat. 2005. 'Kra-Dai and Austronesian: Notes on phonological correspondences and vocabulary distribution', pp. 107–131 in Laurent Sagart, Roger Blench and Alicia Sanchez-Mazas, eds., *The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics*. London: Routledge Curzon; Weera Ostapirat. 2013. 'Austro-Tai revisited', 23rd Annual Meeting of the Southeast Asian Linguistic Society, Chulalongkorn University, 29 May 2013.

FIGURE 1.1
Botanical illustration on the frontispiece of the 1772 English translation of Lettsom's highly influential dissertation on tea, first defended in Latin at Leiden University in 1769

bananas, taro and citrus fruits also first originated.

Conventionally, the species *Camellia sinensis* is divided into two main subspecies:

Camellia sinensis, var. *sinensis*
Camellia sinensis, var. *assamica*

The Assamese variety has larger leaves and, left unpruned, can grow to the robust height of fifteen metres, whereas the Chinese variety in the wild can likewise reach a height of ten metres or more. In fact, tea trees of both varieties, when not pruned back into bushes and when growing unimpeded in a rich and diverse natural forest, can, if the climatic conditions are right, attain a height in excess of twenty metres. It is from the relatively big leaves of such natural trees that the first inhabitants of the original tea homeland experimented, using the tea leaves both as a medicine, a comestible and a condiment.

The deeply verdant tapering leaves of the tea

tree are thick and smooth, alternate along the stem and have slightly serrated edges. Tender leaves are marked by silvery or golden pubescences on the under surface, whereas mature leaves are leathery and acquire a glossy sheen. The fragrant tea flowers consist of a white corolla of five to seven petals surrounding a yellow pistil and many yellow stamens. The bisexual flowers are held together at the base by a tight green calyx of five sepals.

Tea fruits consist of three lobes covered by a somewhat woody brown shell and containing dark brown flat round seeds. Tea is just one of many species of the *Camellia* genus which are native to this area. Some *Camellia* species have ostentatious and strongly fragrant flowers, but tea owes its popularity not to the fragrance of its flowers, but principally to the caffeine, theanine and other salubrious substances contained in its leaves.

Tea trees can grow very old, but nobody knows just how old. The oldest trees in China can be found in Sìchuān and Yúnnán. The tree believed to be the oldest living tea tree grows at an elevation of 2450 metres in Qiānjiāzhài 千家寨 forest in Zhènyuán 鎮沅 district in Yúnnán. The estimated age of the tree is 2,700 years, and its height is 25.6 metres, the trunk diameter is 89 cm, and the base of the tree at the roots measures 120 cm in diameter.[26]

In May 2012, the *China Daily* reported the existence of an ostensibly even older tea tree on the Burmese border in Fèngqìng 鳳慶 county of Líncāng 臨滄 prefecture. The tree has a diameter of 1.84 metres and is purportedly 3,200 years old. A tea cake of half a kilogramme from the leaves of this tree reportedly sold for $40,000 in 2012. The resident ethnic groups are the Austroasiatic Wa and Blang, the Tibeto-Burman Lahu, and the Hmong.[27] How the age of these trees has been so precisely divined is left unexplained.

Wild tea trees estimated to be at least a thousand years old are found in Lâm Đồng province in southern Vietnam, and several tea trees which are at least centuries old are found in the jungles of northern Thailand. Tea is also still picked in Laos from trees that are over four centuries old. Regular pruning keeps tea a bush. Otherwise, living wild and free in the shaded jungles where they grow best, tea plants assume their natural shape as large trees. One study found ten wild tea trees in evergreen forests of southern Yúnnán, each over two centuries old and over one metre in diameter.[28] In his treatise on tea written in the 8th century, Lù Yǔ noted that two men could barely encompass an old tea tree with their outstretched arms embracing the trunk.

The two distinct varieties, *sinensis* and *assamica*, represent two points within a natural spectrum of genetic diversity. Some tea researchers are displeased with the inclusion of both varieties within the single species *Camellia sinensis* and advocate the recognition of the *assamica* variety as a distinct species which they call *Camellia assamica*.[29] Likewise, the variety *waldenae* was originally thought to represent a distinct species of genus *Camellia*, but *waldenae* is now recognised to be a particular variety which can be

26 Liu Feng and Cheng Qikun. 2001. 'Rapid development of Chinese tea culture', *Proceedings of the 1st International Conference on O-cha (Tea) Culture and Science* (held at Shizuoka Convention and Arts Centre, 5–8 October 2001), 1 (1): 68–71; ⟨http://chapin.blog.163.com/blog/static/28021421200943122535563/⟩, accessed October 2010. [The International Conference on *O-cha* (Tea) Culture and Science (ICOS) is operated by the *O-cha* Festival Executive Committee Secretariat and the World Green Tea Association under the Tea and Agricultural Production Division of the Shizuoka prefectural government. References to the *Proceedings of the International Conferences on O-cha (Tea) Culture and Science* in the footnotes are henceforth abbreviated as *ICOS*.]

27 ⟨http://www.chinadaily.com.cn/photo/2012-05/04/content_15214596.htm⟩, accessed November 2014.

28 Fulian Yu and Liang Chen. 2001. 'Indigenous wild tea *Camellias* in China', *ICOS*, 1 (JS): J1–J4.

29 W. Wight. 1962. 'Tea classification revised', *Current Science*, 31: 298–299; Suresh Chandra Das, Sudripta Das and Mridul Hazarika. 2012. 'Breeding of the tea plant (*Camellia sinensis*) in India', pp. 69–124 in Liang Chen, Zeno Apostolides and Zong-Mao Chen, eds., *Global Tea Breeding: Achievements, Challenges and Perspectives*. Hangzhou and Heidelberg: Zhèjiāng University Press and Springer Verlag.

found sporadically from Guǎngxī province to Hong Kong. Some tea researchers have sought to distinguish other varieties or subspecies of tea in addition to the two recognised varieties *sinensis* and *assamica*. For example, another Chinese variety has been christened *pubilimba*.[30] In south-central Yúnnán, the variety *kucha* has been recognised, but whether this is just a variety of *assamica*, a genuinely distinct variety or even a separate species in its own right seems to be unclear.[31] The Chinese varieties *buisaniensis*[32] and *dehungiensis*[33] have also been proposed.

Earlier studies will have to be reassessed, since the classification of species and subspecies of the genus *Camellia* used to be conducted mainly on morphological grounds, but phylogenetic studies are increasingly based not just on anatomy, but on molecular polymorphisms in the genetic material as well.[34] The basic chromosome number in cultivated species of Camellia is fifteen. Over two thirds of all cultivated *Camellia* species are diploid. The prevalence of triploid clones in cultivated tea *Camellia sinensis* has been attributed to human selection for larger leaves.[35] Sections in Chapters Six and Nine deal with tea as a plant species.

When thinking about tea, it could be useful to compare tea varieties to breeds of dogs, which are all members of a single species. Yet the differences between a chihuahua and a labrador are undeniably real. All dogs descend from wolves, and dogs and wolves can still interbreed. Similarly, *Camellia sinensis*, var. *sinensis*, may in fact be essentially just domesticated *Camellia sinensis*, var. *assamica*. Domestication is the process of modifying the genome by artificial selection, just as the dog originated through modification from the wolf through its interaction with man. The *sinensis* cultivar is not different enough to have been transformed into a distinct species, and *sinensis* hybridises readily with the wild *assamica*.

It would be even more apt to compare tea with rice because a broad spectrum of naturally occurring varieties can be found in ancestral *Oryza rufipogon* rice, ranging from the *nivara* ecotype to the classical *rufipogon* variety. At the same time, domesticated rice can cross-pollinate with ancestral varieties, thus rendering the picture more complex. A similar situation appears to be the case with tea. So, for most practical purposes, it is useful to distinguish the two main varieties of *Camellia sinensis*, these being the *sinensis* variety, first introduced to Europeans in Japan, and the *assamica* variety, first seen by Europeans in northeastern India. In nature, the two varieties cross-pollinate freely, and these two varieties and their hybrids form the mainstay of tea culture globally.

There are over 200 species within the genus *Camellia*. If we were to continue with our dog analogy, we would no longer be speaking of chihuahuas and labradors. Instead, other species of *Camellia* would be analogous to coyotes, African side-striped jackals, golden jackals, the Ethiopian

30 Beryl M. Walden and Shiu Ying Hu. 1977. *Wild Flowers of Hong Kong around the Year: Paintings of 255 Flowering Plants from Living Specimens*. Hong Kong: Sino-American Publishing Company; Shiu Ying Hu and Hung Ta Chang. 1981. *Acta Scientiarum Naturalium Universitatis Sunyatseni*, 20 (1): 87–99; Hung Ta Chang. 1981. 'A taxonomy of the genus *Camellia*', *Acta Scientiarum Naturalium Universitatis Sunyatseni, Monograph Series*, 122: 1–180.

31 Hung Ta Chang and He Sheng Wang. 1984. 'Theaceae *Camellia sinensis* var. *kucha*', *Acta Scientiarum Naturalium Universitatis Sunyatseni*, 1984 (1): 10; Hung Ta Chang and He Sheng Wang. 1998. 'Theaceae *Camellia assamica* (Masters) var. *kucha*', *Flora Reipublicae Popularis Sinicae* (Peking), 49 (3): 136; Hung Ta Chang. 2008. 'Theaceae *Camellia kucha*', *Acta Scientiarum Naturalium Universitatis Sunyatseni*, 47 (6): 129–136.

32 S.Y. Lu and Y.P. Yang. 1987. 'Theaceae *Camellia sinensis* subsp. *buisanensis* (Sasaki)', *Quarterly Journal of Chinese Forestry* (Taipei), 20 (1): 106.

33 Hung Ta Chang and Huan Bing Chen. 1984. 'Theaceae *Camellia sinensis* var. *dehungensis*', *Acta Scientiarum Naturalium Universitatis Sunyatseni*, 1984 (1): 8; Tien Lu Ming. 1992. 'Theaceae *Camellia sinensis* var. *dehungensis*', *Acta Botanica Yunnanica* (Kūnmíng), 14 (2): 128.

34 Liang Chen, Fulian Yu, Luhuan Lou and Qiqing Tong. 2001. 'Morphological classification and phylogenetic evolution of the section *Thea* in the genus *Camellia*', ICOS, 1 (11): 29–32.

35 Katsuhiko Kondo. 1977. 'Chromosome numbers in the genus *Camellia*', *Biotropica*, 9: 86–94.

FIGURE 1.2
A tea flower on the northern shore of São Miguel in the Azores in the middle of the north Atlantic

wolf and the black-backed jackal. Yet a few species of *Camellia* are so closely related to tea that we may be speaking of the Camellian analogues of the grey wolf and the dingo, both close relatives of man's best friend.

Some wild species of the genus *Camellia* show great genetic proximity to tea, and especially to the *assamica* variety. Such closely related species include *Camellia irrawadiensis*, which grows in upper Burma and which some scholars maintain could actually be tea,[36] and the highly endangered species *Camellia taliensis*, found in the mountainous evergreen broad-leaved forests at altitudes between 1300 to 2700 metres in northern Burma, northern Thailand and southwestern Yúnnán.[37]

It has recently been discovered that *Camellia taliensis* produces no caffeine in its leaves, and the species has therefore become of great interest to tea breeders interested in the prospect of producing a caffeine-free tea.[38] Geneticists who advocate conservation strategies for the protection of ancient tea stands have compared the genomes of *Camellia taliensis* and the *assamica* variety of *Camellia sinensis*. They reported that *assamica* tea exhibits higher genetic diversity than *Camellia taliensis*, whilst the genetic differentiation between individual *assamica* populations was found to be lower than amongst *Camellia taliensis* populations.[39]

36 Anonymous. 1956. 'Theaceae *Camellia irrawadiensis* Barua', *Camellian*, VII (4): 18.

37 Adolf Engler, Karl Prantl und Hermann Harms. 1925. *Die natürlichen Pflanzenfamilien*, Band 21, *Parietales und Opuntiales*. Leipzig: W. Engelmann (p. 131); Yang Liu, Shi-xiong Yang, Peng-zhang Ji and Li-zhi Gao. 2012. 'Phylogeography of *Camellia taliensis* (Theaceae) inferred from chloroplast and nuclear DNA: insights into evolutionary history and conservation', *Biomed Central Evolutionary Biology*, 12: 92.

38 Akiko Ogino, Fumiya Taniguchi, Junichi Tanaka, Masayuki P. Yamamoto and Kyoji Yamada. 2010. 'Detection and characterisation of the breeding material for caffeine-less tea cultivars', *ICOS*, 4, PR-P-07.

39 Liu Yang, Yang Shixiong and Gāo Lìzhì 高立志. 2010. 'Comparative study on the chloroplast RPL32-TRNL nucleotide variation within and genetic differentiation among ancient tea plantations of *Camellia sinensis*

In parts of southern China, tea is also locally brewed from *Camellia ptilophylla*, a different species of the same genus as tea. The infusion brewed from the leaves of this closely related species is likewise caffeine-free, and the flavour composition is similar yet at the same time quite distinct from true tea. Unlike true tea, the predominant catechin in the *ptilophylla* infusion is not epigallocatechin gallate (EGCG), but gallocatechin gallate (GCG).[40]

Finally, the tea tree, from whose leaves tea is made, and its relatives in the genus *Camellia* are not to be confused with two completely unrelated Antipodean species belonging to the myrtle family *Myrtaceae*. The aborigines used the leaves of the Australian tea tree *Melaleuca alternifolia* to make a poultice to apply to wounds. The tea tree oil extracted from the leaves of *Melaleuca alternifolia* is used today in cosmetics because of its topical antiseptic properties. Captain Cook learnt about the purported curative properties of this tree on his last voyage around the world, and the name 'tea tree' derives from the fact that an infusion of the leaves was drunk by the men of Cook's crew. A second Antipodean species *Leptospermum scoparium* is called the New Zealand tea tree, broom tea tree or manuka myrtle. The tree is originally native to southeastern Australia and derives its name from the fact that convicts used to drink an infusion of the leaves as a substitute for tea.[41] Neither of these plants has anything to do with true tea, however.

Tragically, many *Camellia* species are endangered both by rampant deforestation and, ironically, by the increasing industrialisation of monoculture tea cultivation itself in and around the ancient tea heartland. Sometimes these wild species actually yield drinkable wild tea. The wild species *Camellia gymnogyna* occurs across western Guǎngdōng, northern Guǎngxī, southern Guìzhōu and southeastern Yúnnán. The tree *Camellia crassicolumna* closely resembles the tea tree and is endemic to southeastern Yúnnán. Its leaves contain the same wholesome phenolic compounds found in tea, but no caffeine or theophylline.[42] *Camellia tachangensis* is another relative of tea, from which tea has been prepared, but which is not exploited commercially.[43] This tree grows in evergreen broad-leaved and coniferous forests at altitudes between 900 to 2300 metres in northwestern Guǎngxī, northwestern Guìzhōu, Chóngqìng, southeastern Sìchuān and northeastern Yúnnán.

There are numerous other distinct species of the genus *Camellia*, which are simply vanishing along with many other species of fauna and flora due to the rampant pace of habitat destruction and deforestation. The species *Camellia tonkinensis*, which had been presumed extinct, was only recently rediscovered in the Ngọc Sơn Ngổ Luông natural reserve in the Vietnamese province of Hòa Bình and is highly endangered.[44] The diversity of *Camel-*

var.*assamica* and *Camellia taliensis* (Theaceae) from Yúnnán', *Acta Botanica Yunnanica*, 32 (5): 427–434.

40 Xiu-juan Wang, Dongmei Wang, Chuangxing Ye and Kikue Kubota. 2007. 'Flavour compositions of various teas made from cocoa tea (*Camellia ptilophylla* Chang) leaves', *ICOS*, 3, PR-P-121; Xiao-rong Yang, Yuan-yuan Wang, Kai-kai Li, Jing Li, Cheng-ren Li, Xiang-gang Shi, Chun-Hay Ko, Ping-chung Leung, Chuang-xing Ye and Xiao-hong Song. 2011. 'Cocoa tea (*Camellia ptilophylla* Chang), a natural decaffeinated species of tea—Recommendations on the proper way of preparation for consumption', *Journal of Functional Foods*, 3 (4): 305–312.

41 A Tea Dealer. 1826. *Tsiology; a Discourse on Tea being an Account of that Exotic; Botanical, Chymical, Commercial, & Medical, with Notices of Its Adulteration, the means of Detection, Tea Making, with a brief History of the East India Company*. London: William Walker (p. 8).

42 Q. Liu, Y.J. Zhang, C.R. Yang and M. Xu. 2009. 'Phenolic antioxidants from green tea produced from *Camellia crassicolumna* var. *multiplex*', *Journal of Agricultural and Food Chemistry*, 57 (2): 586–590; Tien Lu Ming. 1992. 'Theaceae *Camellia crassicolumna* var. *multiplex*', *Acta Botanica Yunnanica* (Kūnmíng), 14 (2): 121.

43 Fang Szu Zhang. 1980. 'Theaceae *Camellia tachangensis*', *Acta Botanica Yunnanica* (Kūnmíng), 2 (3): 341; Tien Lu Ming. 1999. 'Theaceae *Camellia tachangensis* var. *remotiserrata*', *Acta Botanica Yunnanica* (Kūnmíng), 21 (2): 152.

44 Yang Shi-Xiong, Nguyen Hieu, Zhao Dong-Wei, Shui Yu-Min. 2014. 'Rediscovery of *Camellia tonkinensis* (Theaceae) after more than 100 years', *Plant Diversity and Resources*, 36 (5): 585–589.

lia species is greatest in northern Burma, northeastern India, southern Yúnnán, northern Laos and northern Thailand. Maintaining untouched jungle habitats and species diversity in the original tea homeland will benefit the planet, and will also benefit the future of tea. The original tea homeland should be defended against both deforestation as well as against the monoculture of modern industrialised tea plantations.

The Original Tea Emerges from the Mists of Time

It requires very little imagination to infer that the quickest and most effective way of deriving caffeine from tea leaves is not to brew a beverage as an infusion of the dried leaves but simply to chew or eat the leaves. In the 17th century, reports reached Europe that Dutchmen in the East Indies actually ate tea leaves in the form of a salad. Philippus Baldæus mentioned the consumption of tea salad on board Dutch vessels in the East.

> De Tee (wanneerze in't water is gebruykt) werd by ons volk t'ſcheep voor Zalade gebrukyt, met Azijn, Olie en Peper, en is van geen onbillijke ſmaak.[45]

> Tea, after it has been used to make an infusion, was used on board ship by our seamen as a salad with vinegar, oil and pepper, and did not taste bad at all.

Since the Dutch have long been maligned for their thrift, it is understandable that in 1685 the Frenchman Philippe Sylvestre Dufour attributed this practice to an attempt by frugal Dutch seamen in the East to extract the last bit of goodness from their tea leaves.

> Si ceux qui s'en font ſervis en veulent tirer la derniere quinteſsence, ils peuvent l'employer en ſalade comme font les Holandois aux Indes en y mettant de l'huile & du vinaigre.[46]

> If those who take tea wish to extract from it the last quintessence, they may eat tea in the form of a salad, as the Dutchmen do in the East Indies, adding to it oil and vinegar.

The vitamin C contained in tea leaves may have helped the Dutch sailors who ate the tea leaves in this way from contracting scurvy. Even today, tea leaves from which tea has already been brewed are eaten in Saharan parts of Cameroun that are plagued by a dismal shortage of green vegetables.[47]

Therefore, though there could be a grain of truth to Dufour's assumption, in reality the Dutch seamen who ate tea as a salad were also those who happened to have been in a position to observe this antique practice in Burma and who might have been trying to emulate it in their poorly informed fashion. The *Vereenigde Oost-Indische Compagnie*, or Dutch East India Company, maintained a presence in Burma from 1634 to 1680. After 46 years, the Dutch East India Company abandoned Burma, just as the company had been driven from Formosa, and scaled down its presence in Cambodia. The practice of eating tea was no doubt observed in Siam as well, where the Company maintained a *comptoir* at the capital Àyútthá́ya: อยุธยา from 1608

45 Philippus Baldæus. 1672. *Naauwkeurige Beſchryvinge van Malabar en Choromandel, der zelver aangrenzend Ryken, en het machtige Eyland Ceylon, nevens een omſtandige en grondigh doorzochte ontdekking en wederlegging van de Afgoderye der Ooſt-Indiſche Heydenen.* Amsterdam: Johannes Janssonius van Waasberge en Johannes van Someren (p. 184). The bilingual quotes in the book are provided not just for the sake of historical completeness, but also for the delectation of readers who can appreciate the subtleties contained in the original and who need not to rely on my English rendering.

46 Philippe Sylvestre Dufour. 1685. *Traitez Nouveaux & curieux du Café, du Thé et du Chocolate: Ouvrage également neceſſaire aux Medecins, & à tous ceux qui aiment leur ſanté.* La Haye: Adrian Moetjens (p. 217).

47 K.V.S. Krishna, P.S. Ramaswamy and N.K. Jain. 2004. 'Eating infused tea leaves in Saharan Africa', *ICOS*, 2: 692–693.

FIGURE 1.3
Burmese pickled tea leaves, known as *ləphɛʔ* လက်ဖက်, is fermented for a few months to as long as half a year, sustaining an industry worth millions of dollars annually.
PHOTO BY LUKE DUGGLEBY

to 1622, from 1624 to 1629 and from 1634 to 1765.[48] Even in Siam, however, the Company scaled down its presence in order to concentrate its activities instead on the more profitable trade with Japan, China, Indonesia, India and Ceylon.[49]

From the very outset, the practice of drinking tea as an infusion rather than eating tea leaves was the principal method of consuming tea amongst Dutchmen and other Westerners in the East Indies who were fortunate enough to be able to afford to emulate the Chinese and Japanese. However, the practice of eating pickled tea leaves, first observed by Europeans in Burma, dates to hoary antiquity. In the verdant region of Asia that forms the native habitat of the tea tree, indigenous peoples did not at first brew tea as a beverage.

Originally tea leaves were chewed, pickled or used as a finely chopped vegetable. Later tea came to be served as a soup. Native tribes of Assam, Arunachal Pradesh, the Indo-Burmese borderlands, upper Burma, Yúnnán, Sìchuān, Guìzhōu, northern Laos and northern Thailand have long been known to pickle and ferment tea leaves inside bamboo internodes, in bamboo baskets, buried in pots or wrapped in plantain leaves in the ground, and then to eat the tea as a condiment or just to chew the tea leaves as a quid.

By the time that the British arrived in Burma, Englishmen were already all too familiar with tea as a beverage. Therefore the practice of eating pickled tea leaves struck them as particularly noteworthy. Michael Symes, who visited Burma in 1795, mentions 'Læpac, or pickled tea-leaf, of which the Birmans are extremely fond'.[50] Symes describes how the Burmese buried the boiled tea leaves in holes lined with plantain leaves, where the tea was left to ferment for several months. In Burmese,

48 Dhiravat na Pombejra, Han ten Brummelhuis, Nandana Chutiwongs and Pisit Charoenwongsa, eds., 2007. *Proceedings of the International Symposium 'Crossroads of Thai and Dutch History'*. Bangkok: Southeast Asian Ministers of Education Organization and Regional Centre for Archaeology and Fine Arts; Bhawan Ruangsilp. 2007. *Dutch East India Company Merchants at the Court of Ayutthaya: Dutch Perceptions of the Thai Kingdom c. 1604–1765*. Leiden: Brill.

49 Daniel George Edward Hall. 1939. 'The Daghregister of Batavia and Dutch Trade with Burma in the seventeenth century', *Journal of the Burma Research Society*, XXIX (3): 139–150; Wil O. Dijk. 2001. 'The VOC in Burma', *Journal of Burma Studies*, 6: 1–110; Wil O. Dijk. 2006. *Seventeenth-century Burma and the Dutch East India Company 1634–1680*. Singapore: Singapore University Press.

50 Michael Symes. 1800. *An Account of the Embassy to the Kingdom of Ava Sent by the Governor-General of India in the Year 1795*. London: W. Bulmer & Co. (Ch. XI, p. 273).

FIGURE 1.4
After four months of fermenting, a large box containing several tonnes of compacted tea is opened, and a sample is taken to assess the quality.
PHOTO BY LUKE DUGGLEBY

both the tea plant itself and pickled tea leaves are referred to as *ləpʰɛʔ* လက်ဖက်.[51]

Pickled tea leaves as a dish play a pivotal role in Burmese ritual culture. Litigants in bygone days, having settled a civil suit, used to sit down together and eat pickled tea leaves in a ritual known as *ləpʰɛʔsâ* လက်ဖက်စား, literally ‘eating tea’. Moreover, pickled tea leaves are put into little packets known as *ləpʰɛʔƫʰouʔ* လက်ဖက်ထုပ် ‘tea bundles’, and the distribution of pickled tea packets is an important custom known as *ləpʰɛʔƫʰoʔtɕʰà* လက်ဖက်ထုပ်ချ ‘put pickled tea packets’, performed in order to invite people to a marriage or other ceremony.

At weddings and religious festivals, offeratory bowls known as *kə̃dɔ̀ pwɛ́* ကန်တော့ပွဲ ‘obeisance, oblation’ are presented to appease and propitiate the *naʔ* နတ် ‘nat’ spirits. Such a bowl contains three bananas, a green coconut with the stem still attached to form a tail, Eugenia leaves and a garland of jasmine flowers. The crowning item is raw *ləpʰɛʔ* လက်ဖက် wrapped in a banana leaf placed in the bowl.[52] The large baskets used for carrying around pickled tea leaves in Burma are known as *ləpʰɛʔƫœ̃* လက်ဖက်တွန့်, and the word *ləpʰɛʔso* လက်ဖက်စို ‘wet tea’ refers specifically to the plain fermented and thus naturally pickled tea leaves constituting the main ingredient of *ləpʰɛʔ*.

Pickled tea is central to Burmese culture, and *ləpʰɛʔ* can be eaten plain or chewed as a quid, but alternatively pickled tea can also be eaten as *ləpʰɛʔθouʔ* လက်ဖက်သုပ် ‘tossed tea’, a pickled tea salad seasoned with chillies and garlic and garnished with dried fish and other condiments and sometimes dressed with oil. It appears that what some Dutch seamen were recorded to have done in the 17th century was simply to adopt the ancient Burmese practice of eating pickled tea salad. The Burmese have also been drinking plain green tea as a beverage for a long time, but the Burmese lexicon reflects that this practice is historically more recent, for all the terms referring to tea drunk as a beverage are secondarily derived terms.

51 Burmese is transcribed in accordance with the phonological transcription outlined on pp. 94–95 of George van Driem. 1996. ‘Lexical categories of homosexual behaviour in modern Burmese’, *Maledicta*, XII: 91–110, except that the Burmese palatal approximant phoneme [j] is transcribed in this book using the letter *y*.

52 Than Than Myint. 2015. ‘“La-pet”: Part of Myanmar people’s lives, tradition and culture’, pp. 125–132 in Vol. 1 in Winai Dahlan, ed., *Asian Food Heritage: Harmonizing Culture, Technology and Industry*. Bangkok: Institute of Thai Studies, Chulalangkorn University.

FIGURE 1.5
Prepared as *ləphɛʔθouʔ* လက်ဖက်သုတ် 'tossed tea', Burmese pickled tea is consumed as a salad, seasoned with chillies and garlic and garnished with nuts, dried fish and other condiments and sometimes dressed with oil.
PHOTO BY LUKE DUGGLEBY

The most basic word for tea as a beverage is *ləpʰɛʔye* လက်ဖက်ရည် 'the water of *ləpʰɛʔ*' or 'tea water'. Burmese green tea leaves used to make tea as an infusion are known as *ləpʰɛʔ tɕʰauʔ* လက်ဖက်ခြောက် 'dried tea'. Plain unadulterated Burmese green tea, served neat as a beverage, is called *ləpʰɛʔyedʑã̀* လက်ဖက်ရည်ကြမ်း 'rough tea water'. More often plain Burmese green tea is referred to by the colloquial terms *ye nwêdʑã̀* ရေနွေးကြမ်း 'coarse tepid water' and *ədʑã̀ ye* အကြမ်းရည် 'rough water'. The former expressions is heard in Rangoon and southern Burma, and the latter term is heard more frequently in Mandalay and northern Burma. Strongly brewed tea, particularly when the tea leaves are steeped inside a tea ball, is called *ətɕàye* အကျရည် 'strong tea', whereas tea served in the Indian way, with added milk and sugar, is referred to as *ləpʰɛʔye ətɕʰo* လက်ဖက်ရည်အချို 'sweet tea'.

An Ancient Trans-Himalayan Root Denoting Tea

The Burmese are not alone in practising the custom of pickling tea. An historical inquiry into the origins of tea must take into account that the linguistic ancestors of the Burmese first entered Burma from what today is the Chinese province of Yúnnán only toward the end of the first millennium AD. When the Burmese came, they brought tea along with them, and this is reflected in their legend that tea seeds were first obtained from a magical bird. Afterwards, tea was ostensibly brought to central Burma by king Alaungsithu အလောင်းစည်သူ [əlâũsiðu] of Pagan (*regnabat* 1112–1167). The reality is far more complex than this myth, for the ancient practice of pickling tea is not just of considerable antiquity but also still widespread throughout the old tea heartland.

There are many distinct tribes and diverse speech communities inhabiting the Eastern Himalayan corridor. Some of these peoples speak languages related to Burmese, and others that are not. Languages of four major apparently unrelated language families are spoken by the many indigenous communities of the tea heartland. These language families are Austroasiatic, Trans-Himalayan, Hmong-Mien and Kradai.[53] In the original tea heartland, we find both ancient practices connected with the preparation of tea by

53 The theory that these four language families might, at a greater time depth, be related to each other as members of a greater linguistic phylum known as East Asian is explained in: George van Driem. 2013. 'East Asian ethnolinguistic phylogeography', *Bulletin of Chinese Linguistics*, 7 (1): 135–188.

pickling as well as distinct etyma for tea with their own separate histories and disparate origins.

The languages related to Burmese are members of the Trans-Himalayan language family. One of the Trans-Himalayan language communities indigenous to the tea heartland are the Jinghpaw or Singpho. Ensconced in the northeasternmost portion of what today is the Indian state of Assam, the Singpho or Jinghpaw were subdued by the British only in 1843. Amongst these people, freshly harvested tea leaves are folded by hand and packed into bamboo internodes. The sealed bamboo internodes are then smoked above a wood fire for several weeks. In 1823, Robert Bruce found wild tea growing along the upper course of the Brahmaputra in eastern Assam, very near the Burmese border. The Singpho were observed by him and his brother Charles Bruce to pickle boiled tea leaves in holes in the ground and later to stuff the fermented leaves into bamboo internodes and take them to market.[54]

In the language of the Singpho of northeastern India and the Jinghpaw of northern Burma and southwestern Yúnnán, the word for pickled tea is *pʰaʔ*^{31}*lap*^{31}, which is like the Burmese word with the syllables switched around or, as linguists are wont to say, with the morphemes reordered.[55] The superscript numerals in the Jinghpaw word form indicate the contours of the phonological tone in terms of a five-tiered tone ladder. The tones are essential traits of pronunciation to speakers of these languages and are also of great importance to linguists who wish to reconstruct the historical sound laws and so to ascertain the precise relationship between words in related languages.

In both languages, Jinghpaw *pʰaʔ*^{31} and Burmese *pʰɛʔ* represent the morpheme denoting 'leaf', which is also cognate with the Zaiwa morpheme *poq*^{5} [pʰɔʔ˥^{55}] 'leaf', occurring in the Zaiwa word for tea leaves, *se*^{5}*poq*^{5} [sə̆^{55}pʰɔʔ˥^{55}].[56] On the other hand, the other element, represented by Jinghpaw *lap*^{31} and Burmese *lə*, reflects the original native etymon denoting the species *Camellia sinensis*. Jinghpaw preserves possible evidence for a final consonant *-p* in the element *lap*^{31}. In Burmese, however, the element *lə* in the word *ləpʰɛʔ* လက်ဖက် is written with a final *-k* က် in Burmese script. In the absence of contrary phonetic evidence from other Burmese dialects, this spelling may very well be no more than an orthographic convention.

The Jino, a Loloish language community of the Trans-Himalayan language family in Yúnnán, called *Jīnuò* in Mandarin, have likewise retained the practice of pickling tea. The generic Jino word for tea and tea leaf is *lɔ*^{55}*po*^{44}, whereas the unrelated word *ɲa*^{42} is the Jino term for tea as a beverage brewed from tea leaves.[57] Like Jino, other Loloish or Yí languages of Yúnnán province, whence the ancestors of the Burmese originally came, show etymologically related terms, but preserve no evidence for a final *-k* in their cognates for 'tea'.

We find that Lahu has *la*^{31} (Láncāng 瀾滄 county, Pǔ'ěr 普洱 prefecture), Hani has *lɔ*^{31}*khɛ*^{55} (Mòjiāng 墨江 county, Pǔ'ěr prefecture), Akha has

54 Charles Alexander Bruce. 1838. *An Account of the Manufacture of the Black Tea, as Now Practised at Suddeya in Upper Assam by the Chinamen sent Thither for that Purpose, with Some Observations of the Culture of the Plant in China, and its Growth in Assam.* Calcutta: G.H. Huttmann, Bengal Military Orphan Press.

55 Dài Qìngxià, Huáng Bùfán, Xǔ Shòuchūn, Chén Jiāyīng & Wáng Huìyín. 1992. *A Tibeto-Burman Lexicon*. Peking: Central Institute for Nationalities.

56 The Zaiwa morpheme *poq*^{5} [pʰɔʔ˥^{55}] also occurs in the form *sek*^{5}*haq*^{5} [sə̆ʔk˥^{55}xɐʔ˥^{55}] 'tree leaves', which is distinct from the Zaiwa word for tea, *se*^{5}*poq*^{5} [sə̆^{55}pʰɔʔ˥^{55}] 'tea leaves', although both words in their first syllable each contain an allomorph of the Zaiwa morpheme ⟨sek^{5} ~ se^{5}⟩ 'tree'. Lustig furthermore contrasts the Zaiwa morpheme *poq*^{5} [pʰɔʔ˥^{55}] 'leaf' with the etymologically related Zaiwa 'leaf' prefix ⟨pe^{5}-⟩, which is seen to occur in forms such as *pe*^{5}*mung*^{11} [pʰə̆^{55}muŋ^{11}] 'leek' (Anton Lustig. 2010. *A Grammar and Dictionary of Zaiwa* [two volumes]. Leiden: Brill). The Lolo-Burmese language Zaiwa is not to be confused with the Midźuish language called Zaiwa (George van Driem. 2015. 'Tibeto-Burman', pp. 135–148 in William S.-Y. Wang, Chaofen Sun, eds., *Oxford Handbook of Chinese Linguistics*. Oxford: Oxford University Press).

57 Norihiko Hayashi, personal communication, 19 July 2012.

FIGURE 1.6
Tea leaves collected by the Jino, a Loloish language community in Yúnnán
PHOTO COURTESY OF NORIHIKO HAYASHI 林範彦, KŌBE CITY UNIVERSITY OF FOREIGN STUDIES

la^{31}*be̱*^{33} (Lùchūn 綠春, Hónghé 紅河 prefecture), Sani has *lɒ*^{11} (Shílín 石林 county, north-central Yúnnán), Lolo of Xǐdé 喜德 county has *la*^{55}*z̩i*^{33} (Liángshān 涼山 prefecture, southern Yúnnán), Lolo of Nánhuá 南華 county has *lo*^{21}*phe̱*^{55} (Chǔxióng 楚雄 prefecture, northern Yúnnán), Lolo of Wǔdìng 武定 county has *lu*^{55}*tɕe*^{33} (Chǔxióng 楚雄), Lisu of Wéixī 維西 county has *la*^{21}*tɕa*^{55} (northwestern Yúnnán), and Lolo of Wēishān 巍山 county has *la*^{21}*phɪ̱*^{21} (western Yúnnán).[58]

Other Tibeto-Burman languages of the region more distantly related to Burmese than the Loloish languages likewise preserve no obvious reflex of a final *-k* sound in their cognate words for 'tea', but whether a final *-p* can be reconstructed, as appears to be reflected in Jinghpaw, will only be ascertained once a definitive understanding of the vocalism in the rhymes of Loloish syllables is attained after historical comparative linguistic work of an adequate calibre is produced superseding the work that has hitherto been done in the field. Moso or 'Nàxī' has *le*^{55} (Lìjiāng 麗江), Nung or 'Nùsū' has *la*^{31}*tɕa*^{33} and Anong *la*^{31}*tɕa*^{55} (Nùjiāng 怒江, northwestern Yúnnán bordering Burma), and the Karen language of northern Burma has *la*^{31}*pha*^{55}.

The Tǔjiā speak a Trans-Himalayan language that was once aboriginal to the area of Húnán, Húběi and Chóngqìng and appears to be a vestige of the earlier population of this region before these parts of south-central China were sinified. The Tǔjiā language preserves the same root in the first syllable of the words *ra*^{2}*gu*^{1} 'tea leaves' and *ra*^{2}*ce*^{3} 'tea'.[59] Outside of the Trans-Himalayan language family, this same root has been borrowed by the Kradai language Tai Lue ไทลื้อ [tʰai lɯ́ː] as *l̰a̰*^{33} 'tea'.[60] The Tai Lue have settled in the tea heartland of northern Thailand, Burma's Shan State and the Sìpsɔ̌ːngphannaː สิบสองพันนา 'Twelve Thousand

58 Dài et al. (1992: 152); Sun Hongkai and Liu Guangkun. 2009. *A Grammar of Anong: Language Death under Intense Contact*. Leiden: Brill (p. 305); David Bradley. 1994. *A Dictionary of the Northern Dialect of Lisu*. Canberra: Pacific Linguistics.

59 Philip Brassett, Cecilia Brassett and Lu Meiyan. 2006. *The Tujia Language*. Munich: Lincom Europa.

60 William J. Hanna. 2012. *Dai Lue-English Dictionary*. Chi:ang Mài: Silkworm Books (p. 95).

Paddy Fields' region of southern Yúnnán, known in Mandarin as *Xīshuāngbǎnnà* 西雙版納. The tea drunk by the Shan in the middle Mekong drainage is called *ná:mla:* น้ำหล้า, which means 'tea water', consisting of the Kradai word for water and a reflex of the Trans-Himalayan etymon for tea.

Languages of the Sinitic subgroup too are members of the Trans-Himalayan language family. The form *tú* 荼 is believed to have been pronounced *dɔ* or *ḍa* in Early Middle Chinese between the late Hàn 漢 dynasty and the appearance of the *Qièyùn* 切韻 'cut rhymes' dictionary in 601 AD.[61] The even earlier Old Chinese pronunciation of the word *tú* 荼 at the beginning of the Zhōu 周 dynasty has been reconstructed as *dlâ* or *lˤa*. It is quite possible that the Old Chinese form *lˤa* 荼 was originally a loan word from a Lolo-Burmese language or another Trans-Himalayan tongue of the original tea heartland. This particular Chinese form is probably cognate with the first element *lə-* in the Burmese word *ləpʰɛʔ* 'pickled tea' and the second element *lap³¹* in Jinghpaw *pʰaʔ³¹lap³¹* as well as with the other cognate forms in other Trans-Himalayan languages cited above. We shall return to this Old Chinese form *lˤa* 荼 in the next chapter.

An Ancient Austroasiatic Root Denoting Tea

A different ancient language family of eastern Asia is the Austroasiatic language family. Languages such as Vietnamese, Khmer, the Nicobarese languages and the Munda languages of India belong to the Austroasiatic language family. The tea heartland may very well be the original Austroasiatic homeland, and the ancient Austroasiatics may have been the first to use wild tea, just as they may have been the first to domesticate rice, taro and other cultigens of this region. The Austroasiatic languages of this area, particularly the languages of the Palaungic and Khmuic branches of the language family, have their own word for tea, and this etymon specifically denotes pickled tea.

The Palaung are the principal cultivators of tea in Burma, and a local legend about the introduction of the tea plant into the Palaung hills of Upper Burma was recorded in 1900 by James George Scott and John Percy Hardiman. The fable contains a folk etymology for the Burmese word for tea, *ləpʰɛʔ*, which relates the first syllable *lə* to the Burmese word *lɛʔ* လက် 'hand'. This etymological relationship does not appear to be supported by the present state of the art in historical linguistics, and in fact the passage clearly shows that we are dealing with a mere folk etymology. However, the rest of the passage contains two elements of interest.

> The cultivation of tea is the great industry of the Rumai [i.e. Palaung], and the following legend is told of its introduction:—
>
> Many years ago, during a feast held by Bilus on a certain river, a Bilu youth fell into the water and would have been drowned had it not been for the great lord Yamadi-kyè-thu, who rescued him. The mother of the lad in gratitude offered to the great lord the body of a dead bird that had remained in a state of perfect preservation for several years. Yamadi examined it and found a lump in its throat. He cut the body open and found a seed which had stuck there and killed the bird. When he removed the seed the body immediately decayed and was thrown away. Yamadi-kyè-thu kept the seed, it is said, until he should visit some place where the soil was suitable to plant it in.
>
> About three hundred and sixty years ago he visited Loi-seng hill in Tawngpeng on a *hpaung set-kya*, or magic barge, accompanied by 100,000 officials and followers. He stopped at Tat-mang-sa village, about five hundred yards from the hill, and visited Loi-seng on a white elephant.
>
> When the elephant reached the foot of the hill he knelt down and worshipped it, thus indicating the presence of some relic of Buddha.

61 Shu-Fen Chen. 2003. 'Vowel length in Middle Chinese based on Buddhist Sanskrit transliterations', *Language and Linguistics*, 4 (1): 29–45 (esp. p. 39); Axel Schuessler. 2007. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai'i Press (p. 178).

FIGURE 1.7 The Austroasiatic Palaung picking tea on the steep slopes near နမ့်ဆန် [nã̌ sʰã] Nam Hsan: The tea plucker is wearing *θənəkʰâ* သနပ်ခါး powder on her cheeks, a cosmetic made from the finely ground bark of the wood apple *Limonia acidissima*.
PHOTO BY LUKE DUGGLEBY

A search was made and some bones were found under a ruin. These were re-buried and Yamadi-kyè-thu built a gilt pagoda over them and declared the hill a place of general worship. He then called two hunters (said to have been Taungthus) named La San and La Yi and gave them the seed he had found in the dead bird's throat to plant. The great lord stayed seven days at Tat-mang-sa village and left three officials to look after the growing of the seed. The Taungthus held out one hand to receive the seed and consequently the plant was called "Let-tit-pet" (or one hand), which has now become corrupted into "Let-hpet." The great lord told the Taungthus that, if they had held out two hands (as etiquette and respect demanded), they would have been rich, but that now they would be poor. Loi-seng hill is still held sacred by the Palaungs, and annually in the month of *Tabaung* (March) a feast is held there.

A number of small pagodas have at different times been built at the hill and one of them is glazed. A large tea tree, said to be the original plant that grew from the seed planted by Yamadi-kyè-thu, is still pointed out. Some, however, say that the first tree was cut down by Burmese soldiers.

This big tree is, however, worshiped by the Palaungs.[62]

62 James George Scott and John Percy Hardiman. 1900. *Gazetteer of Upper Burma and the Shan States, in Five Volumes*. Rangoon: Superintendent, Government Printing, Burma (Part 1, Vol. 1, pp. 491–492). The *Gazetteer* also records: 'In Loi Lông Tawng Peng very little, but tea is grown, and this is also the main cultivation of the Pēt Kang district of Kēng Tūng and of a few circles else-

The two noteworthy elements in this fable are that the Palaung today still worship the oldest tea tree at Lawi Seng or 'Loi-seng' mentioned in the legend, and that the popular folk motif of a magical bird bearing the first tea seeds is repeated in this myth.

The Palaung believe that tea grows better on land on which paddy has been cultivated than on land directly reclaimed from the jungle. The tea is first picked in late March and early April, and in May there is a second picking. Then from late June to mid August, a longer third picking season is observed, and the last picking is in mid September to late October or early November. The term for the first quality of pickled tea, the chief industry of the Palaung, as recorded by Leslie Milne, is *sa-u*. The second quality *sa-chap* is coarser and cheaper. The third quality, called *lot 'n ai* 'free from mist', is kept for domestic consumption by the Palaung themselves.

The tea leaves are allowed to ferment in pits. Villages are deserted during the tea picking periods, and the hard life of Palaung tea plantation workers at the beginning of the 20th century was described by Milne.[63] Palaung tea pickers suffered from what appears to be the very same flying insect that is the scourge of the Black Mountains in southern Bhutan, particularly in the areas inhabited by the Black Mountain Mönpa. Herbert Hope Risley described the Bhutanese *pipsa* fly in 1894,[64] and in 1924 Leslie Milne provided the following precise and succinct account:

> There is also a small biting fly *Chrysops flavocincta*, Ricardo, a species of cleg—a bloodsucker—smaller than a house-fly, which at times causes annoyance to the people while they are picking the leaves. It is called pan-ga ('the biter'). The bite is not felt at the moment, but a small scarlet mark appears on the skin, which next day, becomes inflamed and intolerably itchy; the irritation lasts for days.[65]

Anyone fortunate enough to have spent time in the beautiful and lush habitats of the Black Mountains in Bhutan will also be all too familiar with this scourge.

According to Milne, the Shan in Burma were less accustomed to picking tea than the Palaung, and they made slow pickers. The collected tea leaves were steamed in batches of seven pounds in large wooden steamers cut out of tree trunks, twelve to eighteen inches in diameter and eighteen to twenty-four inches in height, with a bamboo grating as a bottom. The steamers were placed above large iron cauldrons of boiling water, and the tea was steamed for five minutes. The tea leaves were then gently rolled by hand on a mat so as not to break the leaves.

The rolled leaves were placed in well-shaped pits of varying width and six to twelve feet deep. Often there was a false wooden bottom, allowing space for the water to drain away, and the walls of the pit were lined with bamboo, banana leaves or brick to prevent the tea being tainted by soil. Each pit was covered by a thatched roof on poles to prevent rain water from falling or running into

where' (p. 275).

63 Leslie Milne. 1924. *The Home of An Eastern Clan: A Study of the Palaungs of the Shan States*. Oxford: The Clarendon Press (pp. 227–238).

64 Herbert Hope Risley, ed. 1894. *The Gazetteer of Sikhim*. Calcutta: Bengal Secretariat Press (p. xiv).

65 Milne (1924: 230). In 1921, major Ernest Edward Austen provided the following account of *Chrysops flavocincta*: 'They attack very cautiously, approaching their victim from behind, and rarely making for the face. In flight, they somewhat resemble 'Hover-flies,' noiselessly approaching and settling upon the ears, back of the neck, legs, back of the hands, and on the exposed elbows. It is only the severe pain of the bite that attracts the victim's attention, and should the sufferer make the slightest movement, the flies at once effect their escape. The wound made by their bite is very painful, and causes much swelling in many people. A minute bleb forms at the site of the puncture, and if the contents be expressed the irritation usually subsides, though the pain and intense itching may persist for several days. If these wounds become infected, as is frequently the case in children, who are very apt to scratch them, they heal very slowly' (pp. 432–433 in Ernest Edward Austen. 1921. 'Some Siamese Tabanidae', *Bulletin of Entomological Research*, 12: 431–455).

FIGURE 1.8 Tea is fermented in large boxes or in pits such as this one, from the bottom of which a man is emptying the last remaining bits of as *ləphɛʔ* လက်ဖက်.
PHOTO BY LUKE DUGGLEBY

the pit. The tea leaves were covered by a wooden press made of planks. Tea was pickled for at least three months or remoistened and allowed to pickle longer for up to a year. One month of pickling would also suffice but generally yielded pickled tea of inferior quality.

At the beginning of the 20th century, the Shan of Burma and of neighbouring parts of China were the chief buyers of Palaung pickled tea, with the Burmese coming in second place. Pickled tea was carried down to market in Mandalay in tightly woven baskets lined with large leaves on the inside and daubed with cow dung on the outside and covered on the top with bamboo matting. Each bullock carried two such baskets. The Palaung also prepared dried tea leaves for brewing infusions, although far less tea was produced as dry tea for infusion than for pickling. Milne recorded that such pickled tea was avoided by Englishmen because of its effects, for the pickled tea was evidently still loaded with caffeine.

> Palaungs send a good deal of pickled tea down country, where it is bought by Shans, Burmans, Chinese, and even by natives of India who have lived long in Burma—English people, as a rule, cannot sleep after eating it, and rarely buy it.[66]

Palaung tea is available in several qualities or grades. Milne recorded the four grades, in order of decreasing quality, under the names 'king ru-pi', 'ru-pi', 'i-ang-ru-pi' and 'i-ang myam'.[67] The current Palaung grading system for leaf tea distinguishes seven quality grades, listed below in descend-

66 Milne (1924: 237).
67 The Palaung names for the grades, as recorded by Milne in 1924, were corroborated by Luke Duggleby in 2012.

ing order of quality. The corresponding Burmese terms are also provided, and a newer classification is shown that was introduced just several years ago.[68]

Palaung

kiŋ rupi ကိင်ရူပိ
rupi ရူပိ
yiəŋ rupi အျံင်ရူပိ
kʰɔʔ raklaŋ ခါဝ်ရကလံရ်
raklaŋ ရကလံရ်
yiəŋ raklaŋ အျံင်ရကလံရ်
kʰahɔʔ ခါဟာဝ်
kʰḁnãĩ ခါနိူင့်

Burmese

ɕwepʰi û 'top golden thrust' ရွှေဖီဦး
ɕwepʰi 'golden thrust' ရွှေဖီ
nãũ ɕwepʰi 'after golden thrust' နောင်ရွှေဖီ
kʰâkã û 'top bitter grade' ခါးကန်ဦး
kʰâkã 'bitter grade' ခါးကန်
nãũ kʰâkã 'next bitter grade' နောင်ခါးကန်
kʰâhɔ̀ [< Palaung] 'bitter hot' ခါးဟော့
kʰḁ̂nãĩ [< Palaung] 'bitter itself' ခါးနိူင့်

New Burmese grading

ɕwe lɛʔkauʔ 'gold bracelet' ရွှေလက်ကောက်
ətʰûɕɛ 'extraordinary weft' အထူးရှယ်
ɕɛ 'weft' ရှယ်
tʰɛiʔsà 'top grade' ထိပ်စ
əlàʔtʰeiʔsà 'medium top grade' အလတ်ထိပ်စ
əlàʔsà 'medium grade' အလတ်စ
auʔsà 'low grade' အောက်စ

In 1951, Karl Gustav Izikowitz described how the Lamet, another Palaungic group living along the Lao-Thai border, would chew a quid of fermented tea leaves for hours, seasoned with just a little salt. He also reported that the Wa, yet another Palaungic language community, put pickled tea into graves as an offering to the deceased.[69]

The Palaung word *miəm* မျံမ် 'pickled tea' was recorded in 1931 by Milne.[70] In Palaung, the form *miəm* means 'tea', and in most contexts *miəm* is construed to mean pickled tea. Since tea is now also drunk as a beverage, modern Palaung has the terms *miəm hɔŋ* မျံမ်ဟောင် 'dried tea' and *miəm om* မျံမ်အိုမ် 'wet tea' to distinguish between dried green tea leaves for use in an infusion and pickled tea. The Palaung language has a rich vocabulary specifically devoted to tea cultivation. Amongst the terms recorded by Milne are three different terms denoting distinct plucks or crops of tea leaves, *dŭk, gōp* and *kạr-lāh*, and numerous specific terms having to do with tea preparation, such as *rōh* 'dry tea leaves on a tray over a fire'.

The Palaung form *miəm* မျံမ် appears to reflect a widespread Austroasiatic etymon. The root is widespread in the Palaungic languages. Gordon Hannington Luce recorded the forms *miam*^{2} 'tea' and *miam*^{2}*niak*^{1} 'pickled tea' for the Sak dialect of Riang, the form *mœm*^{2} 'tea' for the Lang dialect of Riang, both spoken on the border between Burma and Yúnnán, and the word *mi:n*^{2} 'tea' in Danaw, a Palaungic language spoken by about one thousand speakers in Shan State.[71] The corresponding form

68 These names were kindly provided by Luke Duggleby, who collected both the written forms and audio recordings of these names in 2012.

69 Karl Gustav Izikowitz. 1951. *Lamet, Hill Peasants in French Indo-China* (Etnologiska Studier 17). Göteborg: Etnografiska Museet.

70 Milne recorded the form *myạm* for 'tea' in Leslie Milne. 1931. *A Dictionary of English-Palaung and Palaung-English*. Rangoon: Superintendent of Government Printing and Stationery, Burma. However, this transcription and other forms taken from Milne's data are interpreted phonemically in accordance with Harry Leonard Shorto. 1960. 'Word and syllable patterns in Palaung', *Bulletin of the School of Oriental and African Studies*, XXIII: 544–557.

71 Gordon Hannington Luce. 1964. *Comparative Lexicon (typeset with corrections in red and green) English-Danaw-Riang Sak-Rianglang*. In Luce Collection, MS 6574–7, 001–125. National Library of Australia (incorporated into the Mon-Khmer Database ⟨http://sealang.net/monkhmer/⟩).

FIGURE 1.9 Thousands of tonnes of pickled tea are dispatched each year from the Palaung area in Shan State to Rangoon and Mandalay. Here tea mongers in Mandalay sort pickled tea into different grades prior to pricing.
PHOTO BY LUKE DUGGLEBY

in Lamet, spoken on the Lao-Thai border, is *mɪːŋ* 'tea leaves'.[72]

For two Khmuic languages spoken along the Lao-Thai border, Jörgen Rischel recorded the form *miʌŋ* 'pickled tea leaves' in Mlabri,[73] and David Filbeck recorded the form *mhiaŋ* 'pickled tea leaves' in Mal.[74] Therapan Luangthongkum recorded the etymologically related form *mìəm* 'relish rolled in leaves' in Nyah Kur, a language still spoken in Thailand representing the linguistic vestige of the once widely spoken Monic language of the Dvāravatī kingdom thriving in what today is central Thailand from the 6th to the 13th century.[75]

Chinese tea scholars have suggested that the ancient Austroasiatic people who first chewed pickled tea might be the Pú 濮 peoples mentioned in old Chinese sources.[76] The Palaungic form *miəm* မျံမ် 'pickled tea', which represents a reflex of the original Austroasiatic etymon, was adopted by the Chinese as one of the old loan words into Sinitic for tea, namely *mǐng* 茗. This term originally meant

72 Charoenma Narumol. 1980. *The Sound Systems of Lampang Lamet and Wiangpapao Lua*. Nákhɔːn Pàthǒm: Mahidol University M.A. thesis.

73 Jørgen Rischel. 1995. *Minor Mlabri: A Hunter-Gatherer Language of Northern Indochina*. Copenhagen: Museum Tusculanum Press.

74 David Filbeck. 2009. *Mal (Thin)-Thai-English Lexicon*. Unpublished manuscript (incorporated into the Mon-Khmer Database ⟨http://sealang.net/monkhmer/⟩).

75 Theraphan Luangthongkum. 1984. *Nyah Kur (Chao bon)-Thai-English Dictionary* (Monic Language Studies, Volume 2). Bangkok: Chulalongkorn University Printing House.

76 Cao Jin, Cao Zidan and Liu Jianwei. 2004. 'The tea and associated tea culture that were originated from the Meng-Khmer [sic] language system tribe-ethnics in territory of China', *ICOS*, 2: 706–707.

pickled tea as a condiment before the meaning of the word came to be associated with the harvest of tea leaves for the manufacture of tea as a beverage.

This old Austroasiatic lexical root for tea not only found its way into Chinese, but also into the Kradai languages such as Thai. The word *miəm*, denoting pickled tea in Palaung and Wa, is also the source of Thai *mî:ang* เมี่ยง [mî:aŋ][77] which likewise has the meaning of fermented pickled tea.[78] Before the advent of the Kradai peoples centuries ago, central and northern Thailand were principally Austroasiatic linguistic territory, and the Nyah Kur term *mìəm* 'relish rolled in leaves' harks back to an old local technique used in what today is Thailand when the land was still linguistically Austroasiatic, but which continues as a culinary practice in Thailand to the present day.

In northern Thailand, pickled tea is referred to as *pai mî:ang* ใบเมี่ยง which literally means 'wrapped tea leaves' in reference to the way that

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77 I hereby propose a phonologically complete and consistent representation of Thai in Roman script which I call Swiss Thai Roman. The new system improves upon the Royal Thai General System and can be considered a linguistic refinement of the older royal system. Thai phonology distinguishes 20 initial consonants: k, kh, c, ch, t, th, d, p, ph, b, f, s, h, ŋ, n, m, y, r, l, w. Thai distinguishes 8 final consonants: k, t, p, ŋ, n, m, y, w. The Thai phoneme /ŋ/ is written in Swiss Thai Roman as ⟨ng⟩. Both the Swiss and the royal system avoid the quirky Hànyǔ Pīnyīn graphemes devised for Mandarin in the 1950s. The facultative final glottal stop [ʔ] in open syllables after a short vowel is left unwritten in both the Swiss and royal systems, whereas in Swiss Thai Roman the final offglide consonants /y/ [i̯] and /w/ [u̯] are, for aesthetic reasons, written with the letters ⟨i⟩ and ⟨u⟩ respectively. Thai distinguishes 9 vowel timbres, each occurring as a short and long vowel phoneme. The elegant letter ⟨ɛ⟩ is chosen for the vowel that might otherwise be transcribed phonetically as [æ], and the letter ⟨ə⟩ is used in preference to the symbol [ɤ]. Similarly, the optically salient letter ⟨ɯ⟩ is chosen above the messy barred grapheme ⟨ʉ⟩. The international phonetic length mark [:] is used in Swiss Thai Roman to indicate vowel length: i:, i, ɯ:, ɯ, u:, u, e:, e, ə:, ə, o:, o, ɛ:, ɛ, a:, a, ɔ: and ɔ. Thai phonology distinguishes five phonemic tones. Based on Fromkin's 1978 phonetic study, the contours of the five tones could be expressed in terms of the five-tiered numerical values devised by Yuen Ren Chao in 1930 as mid 3–3, low 2-1-1, falling 4-5-1, high 3-4-4 and rising 2-1-5. The five distinctive tones are represented in Swiss Thai Roman using four diacritic marks. The mid tone is indicated by no mark ⟨ɛ⟩, high tone by an acute accent ⟨ɛ́⟩, low tone by a grave accent ⟨ɛ̀⟩, falling tone by a circumflex accent ⟨ɛ̂⟩ and rising tone by a caron ⟨ɛ̌⟩. Showing both capital and lower case letters, the Thai vowel phonemes in the five tones (mid, high, low, falling, rising) are therefore written in Swiss Thai Romans script as: I, i, Í, í, Ì, ì, Î, î, Ǐ, ǐ, E, e, É, é, È, è, Ê, ê, Ě, ě, Ɛ, ɛ, Ɛ́, ɛ́, Ɛ̀, ɛ̀, Ɛ̂, ɛ̂, Ɛ̌, ɛ̌, Ɯ, ɯ, Ɯ́, ɯ́, Ɯ̀, ɯ̀, Ɯ̂, ɯ̂, Ɯ̌, ɯ̌, Ə, ə, Ə́, ə́, Ə̀, ə̀, Ə̂, ə̂, Ə̌, ə̌, A, a, Á, á, À, à, Â, â, Ǎ, ǎ, U, u, Ú, ú, Ù, ù, Û, û, Ǔ, ǔ, O, o, Ó, ó, Ò, ò, Ô, ô, Ǒ, ǒ, Ɔ, ɔ, Ɔ́, ɔ́, Ɔ̀, ɔ̀, Ɔ̂, ɔ̂, Ɔ̌, ɔ̌. Phonetically speaking, a Thai long vowel tends to be two to four times longer in duration than the corresponding short vowel, whereby the duration contrast is maximal for the peripheral vowels /i/, /a/ and /u/, and the least accentuated for the central vowels /ɯ/ and /ə/. Relative frequency studies support the rendering of Thai long vowels as the orthographically marked member of each vowel pair. The relative frequency between short and long vowels is observed to vary somewhat for each vowel pair as a function of the initial after which they occur, but no appreciable distinction in spectrum can be measured between the long and short member of any vowel pair. Phonetically, final /k/, /t/ and /p/are glottalised and not released. The post-vocalic codas /a, an, aŋ, am, ai, au, e/ are written as: a, an, ang, am, ai, au, e. (Chao Yuen Ren [Zhào Yuánrèn 趙元任]. 1930. 'ə sistim əv toun letəz', *Le maître phonétique*, troisième série, 30: 24–27; Arthur Seymour Abramson. 1962. *The Vowels and Tones of Standard Thai: Acoustical Measurements and Experiments* [Indiana University Research Center in Anthropology, Folklore, and Linguistics, Publication Twenty]. Bloomington: Indiana University; Victoria Alexandra Fromkin. 1978. *Tones: A Linguistic Study*. London: Academic Press; Arthur Seymour Abramson and Nianqi Ren. 1990. 'Distinctive vowel length: Duration vs. spectrum in Thai', *Haskins Laboratories Status Report on Speech Research*, 101/102: 256–268; Vaishna Narang and Deepshikha Misra. 2010. 'Acoustic space, duration and formant patterns in vowels of Bangkok Thai', *International Journal on Asian Language Processing*, 20 (3): 123–140; Adirek Munthuli, Ploypailin Sirimujalin, Charturong Tantibundhit, Krit Kosawat and Chutamanee Onsuwan. 2013. 'A corpus-based of phoneme distribution in Thai', *The Tenth International Symposium Symposium on Natural Language Processing*, Phuket, 28–30 October 2013, 8 pp.).

78 Frank M. LeBar. 1967. '*Miang*, fermented tea in north Thailand', *Behaviour and Science Notes*, 2 (2): 105–121.

FIGURE 1.10 A woman picking tea for *mɯ̂ang* เมี่ยง in northern Thailand

FIGURE 1.11 The leaves are cut with a blade worn on the index finger.

FIGURE 1.12 Usually just one half or two thirds of each leaf is harvested.

FIGURE 1.13 Leaves are bundled in bamboo to make bunches of varying sizes for fermentation.

pickled tea is manufactured and sold. When the tea leaves are picked, they are at once tied into small bundles, each with a long band of split bamboo, and then they are placed in a bamboo wicker carrying basket strapped onto the tea picker's tummy. Nowadays the tea is picked by means of a long razor attached to the index finger. The large ripe leaves of the native wild *assamica* cultivar are used to make pickled tea in Thailand. The bundles of tea leaves are then steamed for 1½ hours, and then fermented for three to four months to a year in a bamboo basket covered with banana leaves. Occasionally water is poured onto the leaves whilst they are fermenting to keep them moist.

Since the fermented tea leaves remain in the shape of the individual bundles into which they were first wrapped, the word *mî:ang* เมี่ยง has also come loosely to refer to morsels of food wrapped in leaves, usually referred to as *mî:ang kham* เมี่ยงคำ 'wrapped morsels'. Such food is most often wrapped in leaves of pepper vine *bai cháphlu:* ใบชะพลู *Piper sarmentosum* or, alternatively, leaves of the purple coral tree *thɔ:ng lă:ngná:m* ทองหลางน้ำ or *thɔ:ng lŏ:ng* ทองโหลง *Erythrina fusca*. When these wrapped food morsels are prepared in the authentic northern Thai Lue style, each wrapped packet also contains fermented tea or *mî:ang* เมี่ยง as one of the seasonings, although fermented tea is characteristically lacking in new Bangkok style renditions of this dish.

The biochemical constituents which determine the complex flavour of pickled tea result both from the natural enzymatic decomposition of the leaves themselves as well as from microbial activity. The microbes involved in the natural pickling process include eighteen homo-fermentative and six hetero-fermentative lactic acid bacteria of the rod-shaped genus *Lactobacillus*, including *Lactobacillus pantheris, Lactobacillus pentosus* and *Lactobacillus suebicus* as well as the two newly identified species *Lactobacillus thailandensis* and *Lactobacillus camelliae*. Also involved in the process is a newly identified coccal homo-fermentative lactic acid bacterium, which has been named *Pediococcus siamensis*.[79] The over two dozen species of the genus *Lactobacillus* that have been isolated from *mî:ang* exhibit various probiotic properties and help prevent the growth of pathogenic bacteria in this traditional masticatory snack.[80]

The inordinate complexity of the panoply of numerous microorganismal species of various genera that are involved in the fermentation of *mî:ang* เมี่ยง results in the aromatic heterogeneity of the product in terms of taste, fragrance and texture as well as in the medicinal properties of any particular batch of *mî:ang*.[81] The resultant substances comprise a diverse bouquet of at least 56 distinct volatile compounds, ranging from linalool and acetic acid to 3-methyl-2-buten-1-ol and benzaldehyde.[82] Despite the drastic biochemical changes which the tea undergoes in the process of fermentation, *mî:ang* still retains high concentrations of the salubrious phenolic compounds epigallocatechin gallate (EGCG), epigallocatechin (EGC) and other catechins as well as caffeine.[83]

Consequently, *mî:ang* has been shown to retain the same antioxidant properties as green tea,

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79 S. Tanasupawat, A. Pakdeeto, C. Thawai, P. Yukphan and S. Okada. 2007. 'Identification of lactic acid bacteria from fermented tea leaves (*miang*) in Thailand and proposals of *Lactobacillus thailandensis* sp. nov., *Lactobacillus camelliae* sp. nov., and *Pediococcus siamensis* sp. nov.', *Journal of General and Applied Microbiology*, 53 (1): 7–15.

80 Srikanjana Klayraung and Siriporn Okonogi. 2009. 'Antibacterial and antioxidant activities of acid and bile resistant strains of *Lactobacillus fermentum* isolated from *miang*', *Brazilian Journal of Microbiology*, 40: 757–766.

81 Apinun Kanpiengjai, Naradorn Chui-Chai, Siriporn Chaikaew and Chartchai Khanongnuch. 2016. 'Distribution of tannin-tolerant yeasts isolated from *miang*, a traditional fermented tea leaf (*Camellia sinensis* var. *assamica*) in northern Thailand', *International Journal of Food Microbiology*, 238: 121–131.

82 Michiko Kawakami, Griangsak Chairote and Akio Kobayashi. 1987. 'Flavour constituents of pickled tea', *Agricultural and Biological Chemistry*, 51 (6): 1683–1687.

83 Sumalee Phromrukachat, Nathachai Tiengburanatum and Jarunee Meechui. 2010. 'Assessment of active ingredients in pickled tea', *Asian Journal of Food and Agro-Industry*, 3 (3): 312–318.

FIGURE 1.14
Pickled tea or *pai mı̂:ang* ใบเมี่ยง at the market in Chi:ang Mài

whilst at the same time inhibiting tyrosinase and hyaluronidase, including anti-glycation activity.[84] In order further to investigate the complex biochemistry of *mı̂:ang* and better to understand its probiotic properties, a 'multidisciplinary research centre for *mı̂:ang*' ศูนย์วิจัยพหุวิทยาการเกี่ยวกับเหมี้ยง was set up in 2017 at Chi:ang Mài University under royal patronage.

Fermented Eatable Tea Becomes Fermented Drinkable Tea

Both existing and historical practices as well as attested words for tea all preserve clues about and vestiges of the origins of tea as a beverage. The earliest tea consumption involved tea in various guises. Most often tea was pickled and eaten or chewed as a quid. At the same time, tea was also prepared as a soup or broth, which was cooked in short squat segments of bamboo. The fermented or smoked tea leaves were stored in long slender bamboo internodes. These practices native to the tea homeland have been retained by linguistically unrelated speech communities of the region, whether they today speak Austroasiatic languages such as Palaung, Wa or Khmu, Trans-Himalayan languages such as Jinghpaw, Lisu or Akha, or Kradai languages such as Shan or Tai Khün.

The Blang prepare sour tea, and the Lili prepare salty tea. The Prinmi make oily tea, whilst the Hmong prepare vegetable wrapped tea. The Aini prepare clay pot tea, and the Shani make copper kettle tea. Many Yí tribals roast tea leaves in an earthenware jar on the fire pit which they shake regularly to ensure even roasting. When a fragrance exudes from the pot, they then steep the tea leaves in boiling water. The Hani brew tea

84 Panee Sirisa-Ard, Nichakan Peerakam, Supadarat Sutheeponhwiroj, Tomoko Shimamura and Suwalee Kiatkarun. 2017. 'Biological evaluation and application of fermented miang (*Camellia sinensis* var. *assamica* (J.W.Mast.) Kitam.) for tea production', *Journal of Food and Nutrition Research*, 5 (1): 48–53.

FIGURE 1.15
A ceramic Lanna fermented tea dish, known as *thuài mî:ang* ถ้วยเมี่ยง, typically featuring a small salt bowl

leaves that have been roasted to a yellow colour in a bamboo internode into which boiling water has been poured.

From the 13th to the 18th century, the Lanna ล้านนา [lá:nna:] kingdom covered most of what today is northeastern Thailand, modern Burma's Shan State and an adjoining sliver of territory in what today is China's Yúnnán province. The denizens of the Lanna kingdom served *mî:ang* เมี่ยง in a ceramic dish or shallow ceramic bowl called a *thuài mî:ang* ถ้วยเมี่ยง 'fermented tea dish'. These vessels were raised circular shallow bowls on top of a pedestal. The outer rim of the raised bowl featured either a smooth circular outer lip or a decorative wavy convoluted lip. At one point along the perimeter of the tea bowl, attached to the inner rim of the lip, was a diminutive round bowl with two tiny legs which stood inside the large tea dish.

The outer edge of the diminutive bowl was flush with the outer lip of the larger dish within which it stood. The inner lip of the diminutive bowl was supported by the two legs on which it stood inside the larger tea dish. The tiny bowl held salt, which was a dear commodity, and the larger dish held the *mî:ang* เมี่ยง. It was customary to season the pickled tea with a bit of salt. These fermented tea dishes have been in use at least since the 12th century, and they were fired in the kilns at Chi:ang Mài until as recently as ten years ago, but the Shan potters who made them have moved or abandoned production. The green glaze used in these vessels was not celadon, but was made from clay mixed with the ashes of the pig's eye chestnut (*mákà:u ta:mŭ:* มะก่อตาหมู).[85]

85 The name pig's eye chestnut is locally applied to a number of species in Thailand, viz. *Castanopsis cerebrina, Castanopsis fissa* or *Castanopsis inermis, Lithocarpus lindleyanus, Lithocarpus tenunervis, Lithocarpus truncatus, Quercus kerrii, Quercus mespilifolioides* and *Quercus semiserrata* (⟨http://t-fern.forest.ku.ac.th⟩, เครือข่ายการวิจัยนิเวศวิทยาป่าไม้ (ประเทศไทย) คณะวนศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ จตุจักร Forest Ecology Research Network (Thailand), Forestry, Department of Forest Biology Building, Faculty of Forestry, Kasetsart University, Chatuchak, accessed September 2015).

FIGURE 1.16
Jinghpaw pickled tea, known as *p*^{h}*aʔ*^{31}*lap*^{31}, which can be consumed as a condiment or, as shown here, stuffed in a bamboo internode by the Singpho of northeastern India and dried for use to prepare tea as an infusion

The old caravan route from the Lanna kingdom ran from Chiːang Mài เชียงใหม่ north through the Shan city of Kengtung ကျိုင်းတုံ [tɕâ̂ĩtõũ] to Pǔ'ěr 普洱. The area around Kengtung in eastern Shan State is inhabited by the Shan ရှမ်း [ɕẫ] or Tai Lue ไทใหญ่ [t^{h}ai lúːː], most predominantly the Tai Khün ไทเขิน [t^{h}ai k^{h}ə̆ːn], whereas the Wa and their army today still effectively control the higher elevations in the same area.

Another overland caravan route led from Yúnnán to Bhamo ဗန်းမော် [bâ̂mɔ] and then either to the Brahmaputra and thence downstream to Guwahati (গুৱাহাটী *Guvāhāṭī*, historically प्राग्ज्योतिषपुर *Prāgjyotiṣapura*) or to Tagaung တကောင်း [təgâ̂û̂] and onward to Sylhet (historically শিলহট্ট *Śilahaṭṭa*) and beyond.[86] Tea was disseminated along these routes, and tea travelled mostly in the form of a comestible, but a versatile one that could also be used in broths. The language communities of this region still preserve a diversity of antique practices that were innovated long ago in the ancient tea homeland.

The tea drunk by the Shan in the middle Mekong drainage is called *náːmlaː* น้ำหล้า 'tea water'. The Shan drink their tea salted from wide tea bowls, individually adding a pinch of salt to their tea after the infusion has been poured into their bowl, which mirrors the way that *mîːang* เมี่ยง has traditionally been eaten. Likewise, both the Palaung and Wa people drink infusions of smoked tea and fermented tea and eat fermented tea. The Shan carry their *mîːang* เมี่ยง in round lacquer boxes made from woven bamboo covered in lacquer. These carrying boxes consist of two snugly fitting parts and are also used to carry various commodities other than *mîːang* เมี่ยง.

Originally, the tea heartland was predominantly, but not exclusively, inhabited by Austroasiatic tribes. Trans-Himalayan language communities also inhabited parts of the original tea homeland, in which wild tea trees were common. Though probably originally pickled and eaten, tea was con-

86 Gunnel Cederlöf. 2014. *Founding an Empire on India's North-Eastern Frontiers 1790–1840: Climate, Commerce, Polity*. New Delhi: Oxford University Press (pp. 80–85).

sumed in various guises and continues to be prepared in different ways by the peoples native to the primordial tea homeland. We know from the 1823 report of Robert and Charles Bruce that pickled tea leaves were put into bamboo internodes and taken to market. The *p*^{h}*aʔ*^{31}*lap*^{31} of the Singpho in northeastern India and the Jinghpaw of northern Burma and southwestern Yúnnán denoted not just pickled tea, but also unfermented tea leaves which were likewise stuffed down into bamboo internodes and fired or smoked, yielding a greenish tea with a smokey flavour.

Non-fermented tea leaves that are prepared by the Shan for drinking in the eastern part of Burma's Shan State today are mostly either of the smokey *p*^{h}*aʔ*^{31}*lap*^{31} variety, or dark teas made from pickled tea leaves. The famous Pǔ'ěr 普洱 or 'Pu-erh' tea, with its characteristic musty flavour, grew naturally out of the way in which the peoples of the tea homeland prepared tea leaves. Tea was originally prepared both pickled as well as unfermented for eating and for drinking, and also to be consumed in ways intermediate between these two, in the form of soups and broths.

Even today, in addition to the manufacture of Pǔ'ěr tea, peoples in Yúnnán make the same smokey *p*^{h}*aʔ*^{31}*lap*^{31} as the Singpho of northeastern India and the Shan of Burma's Shan State. The tea leaves are shoved into fresh green bamboo internodes which are then fired in the fireplace. The people in Yúnnán, as well as Austroasiatic and Trans-Himalayan tribes in Burma and northern Thailand, continue to make thick soups and thin broths on the basis of a tea leaf stock, with the addition of chillies, shallots, ginger, other spices and even hearty ingredients, such as chicken.[87] These soups or broths are heated in big squat bamboo segments directly on the glowing embers of the fireplace.

87 Jiashun Gong, Rongbo Xu, Dongmei Qi and Qinjin Liu. 2001. 'Research on the origin and evolution of the tea eating culture of ethnic minorities in the three-gorges area of China', *ICOS*, 1 (1): 8–11.

Old and New Tea Etyma in the Original Tea Homeland

Ancient words for tea have been preserved in the old tea homeland. Most notably, an old Trans-Himalayan root is reflected in the first syllable in Burmese *ləp*^{h}*ɛʔ* လက်ဖက်, the second syllable of Jinghpaw *p*^{h}*aʔ*^{31}*lap*^{31} and in the Chinese word *tú* 荼. Likewise, an old Austroasiatic root for tea is reflected in Palaung *miəm* မျံမ်, and this etymon was borrowed into Kradai languages, e.g. Thai *mî:ang* เมี่ยง, and Trans-Himalayan languages, e.g. Chinese *mǐng* 茗. It may be possible to some extent, therefore, to narrow down the ethnolinguistic identity of the ancestral populations who first used tea in the original tea homeland on the basis of some linguistic inferences.

Yet both old and new etyma for tea can be found in the original tea homeland today. The newer etyma are sometimes actually old etyma which originated in the original tea homeland, then left only to return under a different guise. Unravelling this entangled patchwork will help us understand whose linguistic ancestors first domesticated tea. Nowadays in China the pickled tea of the tribes of Yúnnán is described by the modern Mandarin circumlocution *yúnnán yānchá* 雲南腌茶 'Yúnnán pickled tea'. Yet in the early days of tea culture, it would still be many centuries before Yúnnán would even become a part of China, and Yúnnán is just one portion of the original tea homeland, which also straddles northern Burma, northern Thailand, western Laos, southeastern Tibet and much of northeastern India.

Some language communities have not preserved ancient tea etyma as well as others. The northern Chinese word *chá* 茶 spread after the popularisation of tea as a beverage during the Táng period, and this newer word appears to be distinct from the far more ancient Trans-Himalayan root reflected in Jinghpaw *lap*^{31}. Certain Trans-Himalayan languages in Sìchuān have borrowed the Sinitic tea term in a transphonologised form, e.g. Bái *tso*^{42}, Lüsu *dʐœ*^{35}, Mi-ñag *tɕœ*^{24}, Tǔjiā *a*^{21}*ts*^{h}*ie*^{55}. Qiāngic languages likewise have similar

forms denoting tea as a beverage, e.g. Qiāng *tʂʰa*, Prinmi *dʑɯ*^{13}, Nàmùyì *ji*^{55}. The Burmish language Ach'ang has the form *tʂʰaʔ*^{31}, and Nung even has the form *la*^{31}*tɕa*^{33} for tea which appears to combine a reflex of the ancient Trans-Himalayan tea etymon with the newer form borrowed from Sinitic.

Northeastern India also formed part of the ancient tea heartland, but perhaps not all of this vast swathe of the subcontinent was part of the original tea homeland. Likewise, a good number of language communities have not retained ancient tea etyma or preserved ancient tea practices. Sometimes even a borrowed term has undergone so much phonological erosion that it is disguised and borrowed not from Chinese directly but through the intermediary of an Indic language.

The modern Galo word for tea in Arunachal Pradesh, for example, is *aalii* 'tea', made up of the elements *aa* 'tea' and *lii* 'red', whereby the first Galo morpheme *aa* 'tea' derives from Assamese *cāh* চাহ [sa] and reduced in Galo to *haa and then to the bound root ⟨aa-⟩. This bound root exists alongside the reborrowed modern Galo form /saa ~ haa/, which cannot, however, create a root-root compound.[88] Modern Galo, therefore, is one of the languages of the region which today appears to preserve no linguistic trace of ancient tea culture.

Likewise, the provenance for tea terms in some Naga languages is moot. The Chungli Ao word for tea is *su*^{L}*ŋu*^{L}, with the superscript L denoting a low tone syllable.[89] The Sumi tea word *sü*^{L}*ni*^{L}*zü*^{L} appears to be built up of the roots *sü* ~ *asü* 'tree', *ni* ~ *anika* 'leaf' and *zü* ~ *azü* 'water'. This folk etymology appears to represent a recent coinage by the Sumi Literature Board.[90] The Kohima Angami word for tea leaf is *seikranyü* (cf. *nhanyü* 'leaf') and for tea as a beverage is *seikradzü*, where the last syllable *dzü* is again identifiable as the Angami word for water.[91] The element 'water' in the Naga terms indicates that the words were coined to refer to tea as a beverage.

Yet the introduction of tea as a beverage in its present shape is historically recent. Such terms are manifestly neologisms that were coined only after the English had introduced their particular mechanised rendition of tea to this area and to the world in the 19th century. In fact, the speakers of Sumi and Kohima Naga more usually just use the Indic word *cāh* চাহ [sa] to refer to tea. On the other hand, the absence of ancient tea etyma in some of the languages of the Indo-Burmese borderlands and Arunachal Pradesh does not necessarily constitute evidence of the absence of such terms in older stages of these languages, which have only recently begun to be committed to writing. More linguistic research is needed. When the ancient peoples of the original tea homeland were already preparing pickled tea, tea soups and tea broths, it would still be centuries before tea as a beverage would be innovated, and this development forms the topic of the next chapter.

88 Mark William Post, personal communication, 10 September 2013.

89 T. Temsunungsang. 2013. 'Tonotactic constraints in Tibeto-Burman languages', paper presented at the 19th Himalayan Languages Symposium, Australian National University, Canberra, 7 September 2013.

90 Amos Teo, personal communication, 17 September 2013.

91 Sekhose, Menuokhrielie. 2001. *English-Tenyidie* [i.e. Kohima Angami] *Self Taught*. Kohima: Good News Book Centre (pp. 33, 139).

CHAPTER 2

Tea Spreads to China

Shrouded behind the Veil of Writing

The story goes that, once upon a time, an ancient Chinese emperor was outside boiling water under a tree. It transpired that the tree under which he was sitting just so happened to be a tea tree. From its boughs a few leaves fell into his cauldron of boiling water. Upon imbibing, he discovered tea to be an invigorating and salubrious tonic. Like most fables, the account is entirely imaginary.

This event is supposed to have transpired sometime between 2737 and 2698 BC, during the reign of the Chinese ancestor god and ancient emperor Shénnóng 神農. The earliest historical source to actually mention the mythical emperor Shénnóng dates from over two millennia later. The *Records of the Grand Historian* (*Shǐjì* 史記 'historical record') was compiled by Sīmǎ Qiān 司馬遷 between 109 and 91 BC. In this source, Shénnóng features as one of the five impeccably wise emperors who ruled over the Chinese people in hoary antiquity, each of whom was associated with a cardinal direction.

Shénnóng, who is associated with the West, is credited with inventing medicine and acupuncture and is given the epithet Yándì 炎帝 'emperor of inflammation'. Another of the five ancestral emperors, Huángdì 黄帝 'the yellow emperor', associated with the cardinal direction of the Middle, ostensibly ruled from 2697 to 2598 BC. Together Yándì and Huángdì are considered to have fathered the Chinese people, who therefore sometimes refer to themselves poetically as *Yán-Huáng zǐsūn* 炎黄子孫 'the descendants of the emperors Yán and Huáng'.

In the third millennium BC, there was no such thing as a Chinese people in the modern ethnolinguistic sense. The ancient Sinitic language communities that would be ancestral to today's Chinese nation only inhabited a small portion of the territory that today constitutes the modern state of China. The earliest historically attested Chinese dynasty is the Shāng 商, which lasted from around 1600 to around 1100 BC, and was located along a portion of the lower course of the Yellow River. Before the Shāng, a legendary dynasty known as the Xià 夏 is purported to have lasted from around 2100 to around 1600 BC.

The dates ascribed by the historian Sīmǎ Qiān to the legendary five emperors, including the mythical discoverer or tea, Shénnóng, are even earlier than the Xià 夏 dynasty of legend. Tradition credits Shénnóng with the authorship of the pharmacopœia *Shénnóng's Herb and Root Classic* (*Shénnóng běncǎo jīng* 神農本草經), which makes no mention of tea despite popular claims to the contrary.[1] The term *túmǐng* 荼茗, denoting a drug taken to prevent sleepiness, occurs in the *Prolegomenous Variorum to Shénnóng's Herb and Root Classic* (*Shénnóng běncǎo jīng jízhù xùliè* 神農本草經集注序例), which, however, is a Táng dynasty text that was discovered at Dūnhuáng 敦煌.[2] The text of the *Shénnóng* pharmacopœia itself dates from the beginning of the Christian era and is therefore about three centuries younger than the pharmacopœias *Historia Plantarum* (Περὶ φυτῶν ἱστορία) and *Plantarum Causis* (Περὶ Φυτῶν Αἰτιῶν), written by Theophrastus (Θεόφραστος 371–288 BC).

The problems with the Shénnóng myth do not stop here, however. Not only is the legendary author supposed to have lived over two and a half millennia before the old Chinese pharmacopœia

1 Yang Shou-zhong. 1998. *The Divine Farmer's Materia Medica: A Translation of the Shen Nong Ben Cao Jing*. Boulder, Colorado: Blue Poppy Press; Éric Marié. 2008. 'Introduction aux propriétés thérapeutiques du thé chinois', pp. 109–122 in Martine Raibaud et François Souty, eds., *Le commerce du thé, de la Chine à l'Europe, XVIIe-XXIe siècle*. Paris: Les Indes savantes (pp. 111–112).

2 Machiko Iwama. 2004. 'About the Chinese characters meaning tea', *ICOS*, 2: 654–657.

FIGURE 2.1 Shénnóng 神農, the mythical 'emperor of inflammation' 炎帝, as depicted in 1503 by Guō Xǔ 郭詡, Shànghǎi Museum

was actually written. Moreover, during the Hàn dynasty, when the text was actually composed, there was still no Chinese ideogram for tea. The fact that the Chinese character denoting tea 茶 is itself not very old was already observed by the Italian Jesuit Matteo Ricci, who lived in China from 1583 until he died in Peking in 1610.[3] Ricci was the first foreign missionary to be granted imperial permission to be buried in Peking. Hitherto the corpses of all deceased foreign missionaries had to be transported to Macau for burial.

Ricci's diary was brought to the mission house in Macau, and from there the diary travelled to Rome in 1614, where it was edited and translated into Latin by Nicolas Trigault and published in Augsburg in 1615. The original Italian text of Ricci's diary remained unpublished until 1911.[4] Ricci learnt in Peking that the Chinese character for tea 茶 was not of great antiquity.

> Sed tamẽ prætermittere nec poſſum nec debeo duo triaúe noſtris incognita. Ac primùm ſit frutex quidam, cuius frondibus celebris illa Sinarum Iaponumq́; ac finitimarum gentium

3 The traditional English name for the northern capital derives from the Cantonese, in which Sinitic language the northern Chinese capital is pronounced *pɐk*^{1}*kiŋ*^{1} 北京, with both syllables in the high level tone with the contour ˥ 55. Some prescribe the use in English of the Mandarin form *Běijīng*, although this city has an English name with a centuries long history of usage. The Hànyǔ Pīnyīn transcription *Běijīng* elicits an English reading pronunciation [beɪˈʒɪŋ], as if the word were written 'Bay Zhing', which does not resemble the Mandarin pronunciation anyway. The French and Germans are less prone to having their own language legislated by foreigners and still say and write *Pékin* and *Peking* respectively.

4 Pietro Tacchi Venturi, ed. 1911, 1913. *Opere storiche del P. Matteo Ricci S.I.* Macerata: Filippo Giorgetti. In Venturi's edition, Ricci's spelling has been entirely modernised to conform to modern Italian orthography. Direct quotes from the original manuscript are rendered in italics, however, and Ricci's mention of tea is given as *cià* (Venturi 1911: 12), which corresponds closely to Trigault's Latin translation.

FIGURE 2.2
The Italian Jesuit Matteo Ricci of Macerata, who lived in China from 1583 until he died at Peking in 1610, in which year this portrait was produced by the convert Yóu Wénhuī 游文輝, who went by the Christian name Manuel Pereira, oil on canvas 120 × 95 cm, kept in the Chiesa del Santissimo Nome di Gesù, patrimonio del Fondo Edifici di Culto, amministrato dalla Direzione Centrale per l'Amministrazione del Fondo Edifici di Culto del Ministero dell'Interno a Roma.

potio quam Cia vocant, decoquitur. Eius vſus apud Sinas omninò eſſe non poteſt antiquiſſimus, nam in vetuſtis eorum voluminibus, nullus as eam ſignificandam hieroglyphicus Caracter (quales ſunt omnes Sinarum litteræ) reperitur. Vnde fortaſſe noſtros etiam hac fronde, ſaltus minimè carere, licet ſuſpicari. Hæc folia verno cœlo legunt, eaq; in vmbra exſiccant, & ad quotidianam decoctionem afferuant, quam propè continuò in potum adhibent, non ſub menſas ſolùm, ſed quoties in ædes hoſpes amicum viſurus ingreditur, hac enim potione inuitatur, eaq̃ue ſecundò ac tertiò, ſi moram aliquam fecerit colloquendo. Calida ſemper bibitur aut potius ſorbetur, & palato non eſt temperata quadam amaritudine inſuauis, ſed reuera ſalutaris & ad multa frequentior illius vſus.[5]

Yet I cannot and should not omit two or three things that are quite unknown to us. First of all, there is a shrub from the famous leaves of which is brewed that beverage of the Chinese, Japanese and neighbouring peoples, which is called Cia. Its use amongst the Chinese cannot be of the greatest antiquity, for in their oldest writings no ideogrammatic character (such as which constitute all the letters of the Chinese) can be found denoting it. Therefore it could very well be conceivable that this very herb might not be lacking in our own woodlands and pastures.

5 Nicolas Trigault [i.e. 'auctore P. Nicolao Trigavtio Belga ex eadem Societate']. 1615. *De christiana expeditione apud Sinas suscepta ab Societate Jesv, ex P. Matthæi Ricij eiuſdem Societatis commentarijs, Libri V, ad S.D.N. Paulum V. in quibus Sinenſis Regni mores, leges atq. inſtituta & nouæ illius Eccleſiae difficillima primordia accurate & ſumma fide deſcribuntur.* Augustæ Vind. [i.e. Augsburg]: apud Christoph. Mangium (Liber 1, Capvt Tertivm, p. 16).

> They harvest the leaves in the springtime and dry them in the shade, and then utilise them in their daily beverage, to which these leaves are added forthwith, not just at meals, but also whenever a visitor is seen to enter a house of friends he is invited to partake of this drink, and if the conversation causes him to linger he will be offered this drink a second and yet a third time. It is always drunk hot, or rather sipped, and the palate is titillated by a certain not unpleasant bitterness, but it is really wholesome the more it is taken.

The relative novelty of the Chinese character denoting tea 茶 was observed again in 1652 by the Amsterdam physician Nicolaes Tulp.

> Videtur autem hæc planta non longè cognita fuiſſe Chinenſibus, neque admodum diu in uſu. deſunt enim ipſis avita, quibus eam deſignent, nomina; ſive hieroglyphici illi characteres (quales fermè ſunt omnes Chinenſium literæ) quibus exprimant ipſius naturam.[6]

> It appears, however, that this plant has not been known to the Chinese for very long, nor could it have been in regular use, due to the lack of any ancient ideograms or characters (such as all the letters of the Chinese happen to be) which denote its name or nature.

The same observation was made by the Amsterdam physician Willem Piso in his augmented 1658 edition of the posthumously published work of Jacob de Bondt, a physician who had worked in the Dutch East Indies from 1627 until his death in Batavia in 1631.

> Porro lis hæret inter Autores, an planta tam nobilis ejuſque uſus fuerit antiquiſſimus, quia in vetuſtis Sinarum voluminibus nullus ad eam ſignificandam hieroglyphicus character (quales ſunt illorum litteræ) reperitur. Noſtratium aliqui Præfecti in Indiis probabilitatem indigenatus territorii Chinenſis & multis ævis agreſtem & incultam fuiſſe mihi teſtati ſunt: Sed ejus culturam, vires eximias, præparandi modos, dignitates, quæ quotidie adhuc incrementum ſumunt, apud illos minus obſoletas eſſe.[7]

> Controversy wages between authors as to whether the use of this noble plant is of such great antiquity, because no ideograms (such as are their letters) can be found in the ancient books of the Chinese to signify it symbolically. Some of our governors in the Indies have expressed the view to me that the plant itself is likely to have been indigenous to the territory of China for ages, but its cultivation, excellent potency, the methods of its preparation and the associated rites and rituals, which appear to gain in popularity day by day, do not appear to be of as great an antiquity.

Both Tulp and Piso drew directly from Ricci's posthumously published Peking diary. In 1685, this insight was repeated once again by Dufour, who drew on Tulp's work.

> L'uſage du Thé ſemble n'etre pas fort ancien dans la Chine, puiſque leurs vieux Livres n'ont point de Caracteres pour en exprimer le nom, comme en ont toutes les autres choſes qui leur ſont connuës depuis long tems.[8]

> The use of tea does not appear to be terribly old in China, since their old books have no characters to express its name, as they have for all other things with which they have long been familiar.

6 Nicolaus Tulpius. 1652. *Observationes Medicæ. Editio nova Libro Quarto auctior, et ſparſim multis in locis emendatior.* Amstelredami: Ludovicus Elzevirius (p. 402).

7 Iacobus Bontius. 1658 [posthumous]. *Hiſtoriæ Naturalis et Medicæ Indiæ Orientalis libri sex,* appended to the fourteen volumes of Willem Piso. 1658. *Guilelmi Pisonis medici Amstelœdamensis de Indiæ utruiusque Re Naturali et Medica libri quatuordecim.* Amstelædami: apud Ludovicum et Danielem Elzevirios (Lib. VI, caput I, p. 87).

8 Dufour (1685: 206–207).

FIGURE 2.3
The sowthistle *Sonchus oleraceus*, photographed at Sapcote on the 10th of June 2007
COURTESY OF GRAHAM CALOW

The phenomenon to which these Western tea scholars of the 17th century were referring is the following: The ideogram *chá* 茶 for tea is not attested in ancient Chinese sources. In fact, this character turns up for the first time in the famous *Classic of Tea* (*Chájīng* 茶經) written by Lù Yǔ 陸羽 (733–804 AD), and the character may very well have been created for this very opus. The history of tea in Chinese culture is therefore rendered somewhat opaque by the fact that the Chinese language, which is written in an ideogrammatic script, did not until the 8th century AD even have a character unambiguously denoting tea in the sense of the modern beverage. For much of China's history, the modern province of Yúnnán, which comprises a major portion of the original tea homeland, lay outside of China proper. In ancient history, China, even when she was at her most powerful, was but a distant suzerain.

The Chinese Characters *tú* 荼 and *chá* 茶

Even an unschooled Western eye can detect the structural similarities between the characters *tú* 荼 and *chá* 茶. The now defunct Chinese ideogram *tú* 荼 used to denote any of a number of bitter medicinal herbs. The *tú* 荼 that was mentioned in the *Book of Odes* (*Shījīng* 詩經), dating from the beginning of the first millennium BC, was the bitter vegetable sowthistle *Sonchus oleraceus*.[9] The scholar Guō Pú 郭璞 (276–324 AD) noted that the *tú* 荼 mentioned in the *Book of Odes* was eaten as a *kǔcài* 苦菜 'bitter vegetable'.[10] The *tú* 荼 mentioned in the *Verses of Chǔ* (*Chǔcí* 楚辭), an anthology of poetry composed partially

9 James Legge. 1876. *The She King; or, The Book of Ancient Poetry, translated in English Verse with Essays and Notes*. London: Trübner & Co. (p. 85); Arthur David Waley. 1937. *The Book of Songs translated from the Chinese* (two volumes). London: George Allen and Unwin (p. 100, line 13 in ode 108 by Waley's numbering); Bernhard Karlgren does not venture to identify the 'bitter herb' in his own translation (1950. *The Book of Odes: Chinese Text, Transcription and Translation*. Stockholm: The Museum of Far Eastern Antiquities, pp. 21–22, 188–190), but he had discussed the matter explicitly previously in his *Analytic Dictionary* (1923). See below.

10 Emil Bretschneider. 1893. *Botanicon Sinicum: Notes on Chinese Botany from Native and Western Sources*, Part II (*Journal of the China Branch of the Royal Asiatic Society for the year 1890–1891*, Shanghai, New Series, XXV), p. 33.

during the Period of Warring States (475–221 BC) and partially in the Hàn period (206 BC–220 AD), was likewise sowthistle.[11]

The Chinese character for tea *chá* 茶 itself is not old, as carefully noted by Matteo Ricci before his death in Peking in 1610, for the character is not attested before the middle of the Táng dynasty, when the fashion of drinking tea as an infusion suddenly gained popularity throughout China. We cannot know for sure whether the character was created by Lù Yǔ 陸羽 (733–804) or by his friend Jiǎorán 皎然 (720–804), for the original manuscript of Lù Yǔ's tea treatise no longer exists. The oldest surviving edition of the text dates from the Míng period (1368–1644).

However, epigraphy etched in stone provides an enduring record that enables us to date the change. Stone tablets inscribed in 779 and in 798 still showed the form *tú* 荼, but those dated to 841 and 855 as well as later tablets had adopted *chá* 茶 as the ideogram for 'tea'.[12] In other words, the ideogram *chá* 茶, which has become the modern Chinese character for tea, is not attested in written Chinese before the time of Lù Yǔ's treatise on tea.

Bernhard Karlgren understood that the character *tú* 荼 originally had two distinct readings, and that the newer character *chá* 茶 was developed only much later to accommodate the second of the two readings. According to Karlgren's reconstruction, the character *tú* 荼 had the Middle Chinese reading *dʻuo* when it represented the word for 'sowthistle'. Karlgren hypothesised that the ancient reading of this ideogram may have been something like *ḍʻa* when it stood for the word that has now come to mean 'tea'.[13] Starostin argued that the existence of this distinct second reading was supported by the transcription *ḍa* attested in the *Arapacana* script for the character *tú* 荼 from the 5th and early 6th centuries.[14]

What is clear is that two phonologically distinct lexemes existed side by side in Middle Chinese, both of which were represented by one and the same ideogram. During the Táng dynasty, new characters were created that were intended unambiguously to represent the second lexeme, which denoted 'tea'. These new ideograms were:

The first of these two new ideograms was created by adding the tree radical *mù* 木 'tree, wood' in front of the character *tú* 荼.[15] This rare character with the prefixed tree radical occurred in the old Chinese dictionary *Ěryǎ* 爾雅.[16] The second ideogram likewise features a prefixed tree radical 木, but the grass radical 艹 is missing above the right component. This character occurs in the *Newly Revised Pharmacopœia* (*Xīn xiū běncǎo* 新修本草).[17]

The third ideogram was derived by streamlining the older ideogram *tú* 荼. The upper part of both ideograms *tú* 荼 and *chá* 茶 is formed by the grass radical 艸 in its stylised form 艹 above the human radical 人 in its stylised form 𠆢. The lower portion of the ideograms, however, is different. The lower portion of the character *tú* 荼 contains the element

11 Huang Hsing-Tsung 黄興宗 [Huáng Xīngzōng]. 2000. *Part V: Fermentations and Food Science*, in Joseph Needham, ed., *Science & Civilisation in China, Volume 6: Biology and Biological Technology*. Cambridge: Cambridge University Press (pp. 457, 507), henceforth cited as Huáng (2000).

12 Huáng (2000: 512).

13 Bernard Karlgren. 1923. *Analytic Dictionary of Chinese and Sino-Japanese*. Paris: Librarie Orientaliste Paul Geuthner (p. 373).

14 Starostin—Сергей Анатольевич Старостин. 1989. *Реконструкция древнекитайской фонологической системы*. Москва: Главная редакция восточной литературы «Наука» (pp. 133, 203).

15 Quí Xīguī 裘錫圭. 2000. *Chinese Writing* (Early China Special Monograph Series, No. 4 [English translation by Gilbert Louis Mattos and Jerry Norman of *Wénzìxué Gàiyào* 文字學概要 'Essentials of Grammatology' (Taipei, 1994 revised edition)]). Berkeley: Society for the Study of Early China (p. 326).

16 Huáng (2000: 510).

17 Huáng (2000: 512, fn. 38).

hé 禾 'grain on a stalk', which was replaced by the element *mù* 木 'tree, wood' to create the new ideogram *chá* 茶 for tea.

In conjunction with the two different readings for the same Chinese character, this variation in the script and the competition between different new ideograms show that the Chinese writing system was still seeking ways to accommodate the term for what, to the Chinese at the time, was evidently the newer and less familiar commodity. The first two out of these three new ideograms fell into disuse and are not found in later texts. The streamlined third new character not only survived but ultimately won out from the older character *tú* 荼, and during the Táng dynasty this new character *chá* 茶 took over and became the modern character for tea.

Karlgren and Starostin recognised that the two phonologically distinct readings of the character *tú* 荼 reflected two distinct Sinitic lexemes, and they provided distinct corresponding reconstructions for these words. Axel Schuessler reconstructed the Old Chinese form *dlâ* for the form represented today by the character *chá* 茶.[18] Schuessler reconstructed the Old Chinese pronunciation *lâ* for the forms represented by three different characters containing the element 余 and showing the modern phonological form *tú*.[19] The fact that a single character once stood for two distinct words has led some simply to equate the two underlying etyma, and some sinologists confuse the old ideogram with the new character which Lù Yǔ sculpted specifically to represent a Chinese word distinct in phonological shape from that of the word represented by the character *tú* 荼.

Baxter and Sagart muddle the characters *tú* 荼 and *chá* 茶, assigning the modern Hànyǔ Pīnyīn transcription *chá* to the character *tú* 荼.[20] For the form represented by the ideogram 荼, these two sinologists reconstructed the Old Chinese form *lˤra*. Sagart once imagined that the hypothetical element ⟨r⟩ in *lˤra* might have been some ancient 'infix' denoting 'the granular aspect of dried tea leaves',[21] thus imputing sound symbolism to Old Chinese derivational morphology. Baxter and Sagart reconstruct five Old Chinese words represented by four different characters containing the element 余 and showing the modern phonological form *tú* as Old Chinese *lˤa* in four cases and as *l̥ˤa* in one instance.[22]

Recapitulating, the word *tú* 荼 reflects a form that must once have been pronounced something like *lˤa* 荼 in Old Chinese. The work of Karlgren, Starostin and Schuessler shows that *chá* 茶 was a distinct word with a different but perhaps somewhat similar pronunciation in Old Chinese. As pointed out in the previous chapter, one of these two Old Chinese roots could be etymologically related to the element *lə-* in Burmese *ləpʰɛʔ* 'pickled tea' and *lap*^{31} in Jinghpaw *pʰaʔ*^{31}*lap*^{31} 'pickled tea'. Alternatively, the word may have been borrowed into Chinese from an old Lolo-Burmese language during the Zhōu dynasty (ca. 1046–256 BC), at which time the Chinese may have first

18 Axel Schuessler. 2007. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai'i Press (p. 178).

19 Schuessler (2007: 501).

20 William Hubbard Baxter and Laurent Sagart. 2014a. *Baxter-Sagart Old Chinese Reconstruction, Version 1.1* (20 September 2014) at ⟨http://ocbaxtersagart.lsait.lsa.umich.edu⟩ (p. 10 out of 161).

21 Laurent Sagart. 1999. *The Roots of Old Chinese*. Amsterdam: John Benjamins (p. 189).

22 Baxter and Sagart (2014a: 111). One of the four Old Chinese forms listed in *Version 1.1* that are represented by characters containing the element 余 and have the modern reading *tú* is likewise reconstructed as *lˤa* in their handbook, which appeared later the same year, viz. William Hubbard Baxter and Laurent Sagart. 2014b. *Old Chinese: A New Reconstruction*. Oxford: Oxford University Press (pp. 27, 363); cf. Ho Dah-an 何大安. 2016. 'Such errors could have been avoided: Review of *Old Chinese: A New Reconstruction* by William H. Baxter and Laurent Sagart', *Journal of Chinese Linguistics*, 44 (1): 175–230; Christoph Harbsmeier. 2016. 'Irrefutable conjectures. A review of William H. Baxter and Laurent Sagart, *Old Chinese. A New Reconstruction*', *Monumenta Serica*, 64 (2): 445–504; Johann-Mattis List, Jananan Sylvestre Pathmanathan, Nathan Wayne Hill, Eric Bapteste and Philippe Lopez. 2017. 'Vowel purity and rhyme evidence in Old Chinese reconstruction', *Lingua Sinica*, 3 (5): 1–17.

FIGURE 2.4
The Chinese ideogram *tú* 荼 on a glazed jar recovered at Húzhōu 湖州 from a grave dating from the Eastern Hàn dynasty (25–220 AD), kept at the Tea Museum in Hángzhōu

learnt about tea as a medicinal herb, although the Chinese cultural core area at this time still lay well outside of the region were tea grew.

The vagaries of the Chinese script nearly disguised the fact that the form *chá* 茶 and *tú* 荼 are distinct words with different histories. Just how long the word for tea remained hidden behind the character *tú* 荼 can be deduced from apparent references to tea in texts earlier than the Táng period. However, the word *tú* 荼 was not used just to denote the sowthistle but appears to have served as a generic term for any number of bitter herbs well into the Táng period.

The term *tú* 荼 has been identified as denoting an array of bitter plants in different contexts, such as *Lactuca versicolor* (also known as *Ixeris chinensis*), *Lactuca indica* (also known as *Lactuca squarrosa*, alternatively known as *Pterocypsela indica*) and the smartweed *Polygonum maculosa* (also known as *Polygonum persicaria*).[23] The three new ideograms introduced during the Táng to replace *tú* 荼 in its other reading of *Camellia sinensis*, of which only *chá* 茶 survives today, all sought to exploit the semantic implication of the tree radical 木 in an attempt to create a specific character for a bitter herb that actually grew on a tree.

From the Hàn Dynasty to the Suí Dynasty

The two kingdoms of Bā 巴 and Shǔ 蜀 were independent polities located in what today is the eastern half of Sìchuān until they were defeated by the Chinese feudal warring state of Qín 秦 in 316 BC. There is no evidence that the custom of brewing tea as a beverage had developed at this time. Indigenous peoples of the region chewed and ate tea as a condiment in the Burmese fashion, as native minorities of the region continue to do today. China's own tea historians have long known that tea leaves were first chewed, pickled or used as a finely-chopped vegetable.

The eastern portion of Yúnnán did not come within the Chinese orbit until 109 BC with the conquest of the Diān 滇 kingdom under emperor Wǔ 武 of the Hàn 漢 dynasty, although the political and cultural incorporation into the Chinese cultural sphere of even this easternmost portion of Yúnnán would remain quite incomplete for over a millennium after the fall of the Hàn (206 BC–220 AD).[24] During the Hàn period, commercial intercourse increased between the Chinese and the peoples beyond China's frontiers, inhabiting the region that today is Yúnnán. One of the results was an increasing familiarity in China with the commodities of this region, one of which was tea.

23 Bretschneider (1893: 3, 33–34, 177–179). The treatise *On Cold Damage* (*shānghán lùn* 傷寒論) by Zhāng Zhòngjǐng 張仲景 or Zhāng Jī 張機 (150–219 AD) is just one such text in which the reference of *tú* 荼 is unclear today.

24 Francis Allard. 2015. 'China's early impact on eastern Yúnnán: Incorporation, acculturation and the convergence of evidence', *Journal of Indo-Pacific Archaeology*, 35: 26–35.

Early references to the bitter herbs denoted by the word *tú* 荼 in Chinese sources were medicinal, and one of the possible meanings represented by this character was evidently tea. The practice of compressing steamed tea leaves into bricks for transportation and conservation arose during the Hàn 漢 dynasty, but at this time tea was usually prepared with spring onion, ginger, mint, date, dogwood berries and orange peel. The consumption of tea was especially popular in western Sìchuān and the vast region south of the Yangtze,[25] known in Chinese as Jiāngnán 江南.

The first attested usage of the generic term *tú* 荼 to refer specifically to what seems to have been tea occurs in the *Boy Servant Contract* (*Tóngyuē* 僮約), a piece written by Wáng Bāo 王褒 in 59 BC. This mock agreement was drawn up at Chéngdū 成都 between Wáng Bāo and an impudent boy slave when Wáng Bāo purchased the lad from a widow who was pleased to get rid of him. Since the obstreperous boy would only perform duties that had been explicitly listed in his contract, two of his listed chores were to 'boil tea' (*pēng tú* 烹荼) and, when guests arrived, to buy *tú* 荼 at Wǔyáng 武陽, a tea producing locality 30 km to the northwest of Chéngdū.

Although the drinking of tea was already an established part of the daily life of the gentry in what today is Sìchuān by the Hàn 漢 period, this practice was still virtually unknown in northern China. Yet south of the Yangtze during this period, the practice of drinking tea had gradually begun to spread eastward and had become popular amongst southerners by the 4th century AD.[26] Tea trees thrive in the shade of other trees, and the forested areas south of the Yangtze provided welcoming habitats in which this cultigen could be propagated.

The *Shuōwén jiězì* 說文解字 is a Hàn dynasty dictionary edited by Xǔ Shèn 許慎 (58–147 AD) and presented to the emperor in 121 AD. This source contains the term *mǐng* 茗, which may have denoted the buds, the leaves or the actual plant associated with the bitter commodity *tú* 荼. Despite the ambiguous way in which the term *tú* 荼 is used in old sources, this particular dictionary entry may represent an early reference to tea because today the ideogram *mǐng* 茗 is still used to refer to tea. As pointed out in the previous chapter, the Chinese term *mǐng* 茗 in all probability originated as a borrowing of the widespread Austroasiatic etymon reflected in the Palaung word *miəm* ၯံ that originally denoted pickled tea as a condiment to be eaten.

Tea became known to scholars and privileged aristocrats in Hàn times, but tea was by no means yet a commodity for the great unwashed, nor did tea even yet resemble the beverage that is drunk widely in China today. The historicity of Lù Yǔ's claims, made in the late 8th century, that Dàn 旦, the legendary duke of Zhōu 周公, and the Hàn dynasty poets Sīmǎ Xiāngrú 司馬相如 (179–127 BC) and Yáng Xióng 揚雄 (53 BC–18 AD) were ancient tea luminaries is difficult to assess today. Their association with tea may be just as fanciful as the myth about the emperor and ancestor god Shénnóng 神農.

Evidence from the Hàn period does suggest that *tú* 荼, which in some contexts appears clearly to refer to tea, was already known as a medicinal herb to those who were privy to such knowledge and who had privileged access to the commodity. The *Rites of Zhōu* (*Zhōulǐ* 周禮), a text dating from the 2nd century BC, mentioned a funerary officiant named the *zhǎng tú* 掌荼, or caretaker of *tú*, whose duty it was to ensure the availability of *tú* for the

25 The Mandarin name for the river is *Cháng Jiāng*. In Chinese sources, old and new, the river is often simply referred to as *Jiāng* 'the River', from Old Chinese 江 *krɔŋ, which is a southern word for 'river'. The conventional Western name Yangtze derives from a local name *Yángzǐ Jiāng*, which is originally a designation for just one portion of the river in the Yangtze delta in Jiāngsū province downstream from Yángzhōu, named after a strategic ford Yángzǐ, located at some distance from the present course of the Yangtze. The Hànyǔ Pīnyīn inspired spelling 'Yangzi', seen in some English language publications, is a hypercorrection which is best avoided.

26 Quí (2000: 326); Huáng (2000: 507–508, 513).

funerary rites of the royal household.[27] A glazed jar recovered at Húzhōu 湖州 from a grave dating from the Eastern Hàn dynasty (25–220 AD) appears to bear a stylised form of the ideogram *tú* 荼, which evidently represented the erstwhile contents of the vessel.[28]

Although Huáng once contended: 'There is no indication that tea, as we understand it, was ever an integral part of a funeral ceremony in ancient China',[29] archaeological finds such as this one appear to indicate the contrary. A reference to *tú* 荼 has been found in Hàn dynasty tombs at Jiānglíng 江陵 in Húběi. A reference to *jiǎ* 檟, a now defunct term which may likewise have denoted tea, is found in the inventory of the funerary items interred in one of the three tombs at Mǎwángduī 馬王堆 in Húnán, which was excavated from 1972.[30] These attestations from the 2nd century BC appear to indicate that tea had spread to Húnán by this time, at least in aristocratic circles.

Recent archaeological finds of tea in the Hàn Yánglíng 漢陽陵 mausoleum at today's Xī'ān 西安, dating from the 1st century BC, and from a cemetery at sGar སྒར་ [kaɾ] in mÑaḥ-ris མངའ་རིས་ [ŋārī] in western Tibet, dating from the 2nd century AD, where the tea was mixed with barley and other plants, further substantiate the continued and widespread use of medicinal tea as a grave offering amongst the aristocracy in China and in Tibet.[31] These findings show that the *tú* 荼 used in royal funeral rites at this time was tea and not some other bitter herb.

Recently, archaeologists have sought to sensationalise their finds for a modern audience by claiming anachronistically that these grave offerings indicate that tea was grown 'to cater for the drinking habits of the Western Han dynasty'. On the contrary, the dried plant bundles found at these grave sites do not yet indicate that the tea was drunk as an infusion in the fashion that only came to be popularised in later historical times. Tests were conducted to show that the matter in the plant bundles contained caffeine, since the archaeologists reported that 'no diagnostic morphological features survive that can be used to identify unequivocally these partially decayed leaves and buds as tea'.[32]

No way was found to distinguish whether the deteriorated specimens represented green tea or pickled tea, but the grave offering appeared to contain a high proportion of tips, known to have the highest medicinal value and, as we know today, the highest caffeine content. Tea began as a pickled comestible with medicinal qualities and then developed into a medicinal broth long before it grew into a popular beverage. The use of tea as a grave offering both in Tibet and China is likely to have derived from the original tea homeland itself, where the Wa to the present day put pickled tea into their graves as an offering to the deceased.[33]

Tea is mentioned in the text of oddities and curiosities entitled *Bó wù zhì* 博物志 written in northern China by Zhāng Huá 張華 (232–300 AD). In a section devoted to foods to be avoided (*shíjì* 食忌), the author cautions that the drinking of 'genuine' *tú* (*yǐn zhēn tú* 飲真荼) causes insomnia. This text was written some time between 275 and 289 and still shows a distrust of tea as well as an unfamiliarity with the commodity in northern China at the time. The mention of 'genuine' *tú* reminds us that

27 Huáng (2000: 507).

28 Exhibit at the China National Tea Museum (中國茶葉博物館) at Hángzhōu, 24 July 2007.

29 Huáng (2000: 507–508).

30 Huáng (2000: 513).

31 Houyuan Lu, Jianping Zhang, Yimin Yang, Xiaoyan Yang, Baiqing Xu, Wuzhan Yang, Tao Tong, Shubo Jin, Caiming Shen, Huiyun Rao, Xingguo Li, Hongliang Lu, Dorian Q. Fuller, Luo Wang, Can Wang, Deke Xu and Naiqin Wu. 2016. 'Earliest tea as evidence for one branch of the Silk Road across the Tibetan Plateau', *Nature Scientific Reports*, (6:18955 | DOI: 10.1038/srep18955), pp. 1–8.

32 Lu et al. (2016).

33 Izikowitz (1951).

the character *tú* 荼 could have denoted other herbs as well.[34] Texts of the period support the current view that tea was still used primarily as a medicinal herb. The indulgence in this medicinal herb amongst the privileged classes ultimately led to a transition from a pickled comestible to a broth or infusion.

Surviving recensions of the *Ěryǎ* 爾雅, a dictionary from the Hàn dynasty, contain lexicographical material dated to the early 3rd century BC.[35] The dictionary mentions *tú* 荼 as a *kǔcài* 苦菜 'bitter vegetable' in its thirteenth chapter devoted to herbaceous plants, and this reference is again likely to denote the sowthistle *Sonchus oleraceus*. However, in its fourteenth chapter devoted to woody plants, the dictionary mentions another commodity called *jiǎ* 檟, which is described as 'bitter' *tú* (*kǔtú* 苦荼).[36] It is in the latter context that the tea ideogram *tú* 梌 with the prefixed tree radical is attested, a rare character discussed in the previous section. Neither the characters *jiǎ* 檟 and *tú* 荼 nor the rare tea ideogram *tú* 梌 with the prefixed tree radical are in regular use today. Yet there are two additional arguments supporting the view that this second entry in the *Ěryǎ* 爾雅 could be read as an early reference to tea.

One argument is that Guō Pú 郭璞 (276–324), in his commentary on the *Ěryǎ*, described *jiǎ* 檟 as a tree whose leaves remained green in winter and likened the plant unto a gardenia *Gardenia jasminoides* (*zhīzǐ* 梔子). The second argument is that Guō Pú explained that the leaves are boiled to make a beverage or soup. The earliest pluck is called *tú* 荼, whereas leaves gathered late in the season are called *mǐng* 茗. Another name for the plant itself was *chuǎn* 荈, and the people of the kingdom of Shǔ 蜀 in what today is Sìchuān called this commodity 'bitter' *tú* (*kǔtú* 苦荼).[37] This important passage is essentially paraphrased centuries later in Lù Yǔ's treatise on tea.

From the account given by Guō Pú 郭璞 we know that by the time of the Eastern Jìn 東晉 (317–420 AD), *tú* 荼 could also be brewed as a beverage, and presumably tea increasingly came to be prepared as a herbal infusion. Tea was drunk at the Northern Wèi 北魏 capital at Luòyáng 洛陽 from 493 AD, where tea was brewed by pounding small pieces broken off of the tea bricks, which had been compressed and roasted brown in southwestern China. The drinking of tea spread in tandem with the growing popularity of Buddhism. By this period, tea had also acquired its association with porcelain from Zhèjiāng 浙江, since the beverage was already being served in fine ceramic vessels. Tea offered a sober and salubrious alternative to the sacred ancestral beverage of alcohol.

Sometimes the context appears to make it clear whether the herb being referred to may have been tea.[38] One early instance in which tea appears to be intended is recorded by Zhāngyī 張揖 in an expanded version of the dictionary entitled *Guǎngyǎ* 廣雅, which likewise dates from the 3rd century BC. The source recounts that in the regions of Bā 巴 and Jīng 荊, corresponding to parts of modern Sìchuān and Húběi provinces, leaves were plucked, mixed with rice gruel (*mǐzhōu* 米粥) and made into cakes and then baked until russet in colour. This was pounded into a powder and stewed into a thick hot soup with shallots, ginger and mandarin peel. The resulting soup rendered one sober and wakeful.[39]

Some other early instances of *tú* 荼 have been argued to represent tea, but the reference is sometimes not fully clear. A physician named Huá Tuō 華佗, who lived during the Three Kingdoms

34 Derk Bodde. 1942. 'Early references to tea drinking in China', *Journal of the American Oriental Society*, LXII: 74–76.

35 Bernard Karlgren. 1931. 'The early history of the Chou Li and Tso Chuan texts', *Bulletin of the Museum of Far Eastern Antiquities*, 3: 1–59 (esp. p. 49).

36 Huáng (2000: 508).

37 Bretschneider (1893: 130).

38 Terada Takashige. 2001. 'Some usages of the 荼 word meaning tea or some bitter vegetable in the Tenpyo period (mid 8th century)', *ICOS*, 1 (1): 48–49.

39 Huáng (2000: 520).

period (220–280 AD), ostensibly prescribed *tú* 荼 to one patient and *chuǎn* 荈 to another.[40] The source evidently distinguishes between *tú* 荼 and 荈 *chuǎn*, but the nature of the distinction and therefore the reference of *tú* 荼 remains unclear. As an historical physician, Huá Tuō's greater claim to fame probably lies in his description of an anaesthesia in powder form made from boiled hemp.[41]

Another possible reference to tea dating from the 3rd century AD is contained in the *History of the Three Kingdoms* (*Sān guó zhì* 三國志). An unfortunate man named Wéi Zhāo 韋昭[42] visited the court of king Sūn Hào 孫皓, who acceded to the throne of the Wú 吳 kingdom in 264. This dissolute monarch hosted bacchanals at which he obnoxiously compelled his guests to drink seven *shēng* 升 or Chinese pints of alcohol.[43] A helpful person slipped Wéi Zhāo an infusion of *tú* 荼 instead of alcohol. This alcohol substitute could very well have been tea, but could also have been an infusion of another herb which resembled the king's alcohol in colour. In this way, Wéi Zhāo escaped being forced to imbibe too much alcohol. For this harmless deception and other perceived transgressions, Wéi Zhāo was gaoled and put to death by Sūn Hào in 273.[44]

A famous 'Ode to tea' was written by Dù Yù 杜預 (222–285), a commander during the Western Jìn 西晉 dynasty. His dithyrambic piece on tea is preserved in the Táng dynasty literary anthology *Yìwén lèijù* 藝文類聚 compiled in 624 AD by the Confucian scholar Ōuyáng Xún 歐陽詢 (557–641). In the ode, Dù Yù described the plucking or harvesting of tea, which was served as a frothy brew with a ladle in lustrous bowls, and which instilled the spirit with harmony. The word used for tea in this ode, however, was not *tú* 荼, but *chuǎn* 荈.[45]

During the Eastern Jìn 東晉 (317–420), the *Records of the Countries to the South of Mount Huá* (*Huáyáng guó zhí* 華陽國志), the oldest gazetteer of regional history in China, mentions the existence of tribute tea (*gòngtú* 貢荼) sent to the court from the kingdoms of Bā 巴 and Shǔ 蜀. In the second half of the 5th century, Xiāo Zé 蕭賾 (440–493), who was the Wǔ 武 emperor of Southern Qí 齊, decreed that there was to be no more slaughtering of cattle. Instead, he wished to receive imperial tribute in the form of cakes, fruit, tea, rice and wine.

The *Monasteries of Luòyáng* (*Luòyáng qiélánjì* 洛陽伽藍記), written in 547 by Yáng Xuànzhī 楊衒之, contains the earliest known account of Bodhidharma बोधिधर्म, a Brahmin itinerant mendicant *jogī* जोगी from the kingdom of Pallava. Bodhidharma came from India to the southern China coast ca. 475 AD. Around 490 he moved north, crossed the Yangtze and lived in the capital Luòyáng until he died in 528. Many a *jogī* जोगी and many a *ṛṣi* ऋषि from India manage to stray up way into Bhutan on foot even today, but this particular one made it to China, perhaps by sea, as legend has it.

Bodhidharma became known simply as *Dámó* 達摩 'Dharma' in Chinese and *Daruma* in Japanese. In Japan, Daruma is revered in connection with the awakening properties of tea. The many tales and legends surrounding this eccentric figure gave birth to an imaginative parable about how Bodhidharma could not concentrate during meditation, and therefore cut off his eyelids so that he would stay awake. He cast away his eyelids, from which tea trees then sprouted.

40 William Harrison Ukers. 1935. *All About Tea* (two volumes). New York: Tea Trading and Coffee Trade Journal Company (Vol. 1, p. 3).

41 Ch'en Shou. 1994. 'The biography of Hua-t'o, from the History of the Three Kingdoms', translated by Victor Henry Mair, pp. 688–696 in Victor Henry Mair, ed., *The Columbia Anthology of Traditional Chinese Literature*. New York: Columbia University Press. The historian Ch'en Shou (Chén Shòu 陳壽) lived from 233 to 297 AD.

42 His name is also recorded as Wéi Yào 韋曜.

43 Today a *shēng* 升 has been redefined as a litre in the metric system, but previously the volume designated by a Chinese pint has varied throughout history and from place to place.

44 Bodde (1942: 74–75).

45 Julius von Klaproth. 1833. 'Sur l'usage du thé en Chine, et règlement concernant cette marchandise', *Nouveau Journal Asiatique*, XII: 82–90.

FIGURE 2.5
Bodhidharma बोधिधर्म or *Daruma* 達摩, as depicted by Kenkō Shōkei 賢江祥啓 during the Muromachi period, 93.4×45.8 cm, ink on paper, Important Cultural Property preserved at Nanzen temple 南禅寺 in Kyōto

The text of *Monasteries of Luòyáng* also recounts the story of a man called Wáng Sù 王肅 who had fled from the land of the Southern Qí 齊 to the Northern Wèi 魏 capital at Luòyáng 洛陽. Wáng Sù brought with him the southern habit of drinking an infusion of tea (*mǐng* 茗), which was still regarded as a peculiar and alien practice in the north. When the gentlemen of Luòyáng saw that the newly arrived southerner Wáng Sù could down a gallon of tea in one sitting, they named him the 'bottomless cup'. He also ate copious quantities of fish like a southerner. Part of his becoming accepted at Luòyáng involved his weaning himself off of these alien habits of drinking tea and eating fish and adopting instead the northern predilection for koumiss or fermented mare's milk, yoghurt and mutton. The text recounts that, although tea was imbibed at the Northern Wèi court at certain ceremonial functions, tea was still avoided by northerners as a beverage.[46]

Another possible but more dubious reference to tea dates from the period of the Southern and Northern Dynasties. The mention of a *kǔcài* 苦菜 'bitter vegetable' in the old Chinese pharmacopœia *Herbal Annotations* (*Běncǎo jízhù* 本草集注), edited by Táo Hóngjǐng 陶弘景 (456–536), might have been tea.[47] This vegetable was said to

46 William John Francis Jenner. 1981. *Memories of Loyang: Yang Hsüan-chih and the lost Capital (493–534)*. Oxford: Clarendon Press (p. 215).

47 e.g. Sheng Han. 2001. 'On the origin of tea industry in China', ICOS, 1 (1): 12; F.R.A. Schmidt. 2006. 'The textual history of the *Materia Medica* in the Han Period: A system-theoretical reconsideration', *T'oung Pao*, 2ème

relieve fatigue when drunk and alleviated rheumatic discomfort when applied as a paste. Although it is conceivable that this vegetable may have been *Camellia sinensis*, no integral original manuscript of *Herbal Annotations* exists today.

Later, with the rising popularity of Buddhism during the short-lived Suí 隋 dynasty (581–618 AD), the practice of drinking tea began to spread from the aristocracy and Buddhist clergy to the common people. At this time, tea was already drunk pure by the Buddhist clergy, but their beverage was still boiled brick tea, much of which was still obtained from the areas in Sìchuān that formed part of the kingdoms of Bā 巴 and Shǔ 蜀. During the Suí dynasty, a discontinuous series of inland waterways collectively referred to as the Grand Canal (*dà yùn hé* 大運河) was first completed, connecting the economic hub of Yángzhōu 揚州 to Luòyáng 洛陽. Subsequently this network would, over the course of history, come to extend to Peking in the north and to 杭州 Hángzhōu in the south, and the Grand Canal would later be one of the conduits that helped to facilitate the spread of tea from the south to the north.

Finally, two interesting probable references to tea appear during the early Táng dynasty. In 659, the *Newly Revised Pharmacopœia* (*Xīn xiū běncǎo* 新修本草), written by Sū Jìng 蘇敬, mentioned *mǐng* 茗 as a herb that was 'cold' in character, non-toxic, stimulant, diuretic, good against haemorrhoids, phlegm, fever and thirst.[48] In this context, the term *tú* 梌 occurs in the shape of the second of the three new ideograms discussed in the previous section, containing the prefixed tree radical 木, but with the grass radical 艹 missing above the right component of the character.

Around 670, in the *Nutritional Pharmacopœia* (*Shíliáo běncǎo* 食療本草), Mèng Shēn 孟詵 wrote that *mǐng* 茗 leaves could be boiled to make a suitable stock for congee, which had the properties of dispelling heat, dissolving phlegm and promoting bowel movements. The same text says that *tú* 樣 relieves flatulence, boils and itches,[49] whereby the character used was the first of the three then new but now defunct ideograms, discussed in the previous section, with the prefixed tree radical.[50] If the *tú* 樣 in this text denotes *Camellia sinensis*, then the described alleviation of itching may represent a first reference to the antihistamine activity of tea.

In 739, the ten-volume *Supplemental Pharmacopœia* (*Běncǎo shíyí* 本草拾遺) by Chén Cángqì 陳藏器 (681–757) described *mǐng* 茗 as a panacea that cured numerous ills and discomforts. Such early Táng dynasty works and older sources, some of which no longer exist, not only must have influenced the sage Lù Yǔ 陸羽, but historically they also foreshadow the encomia that would later be written by Dutchmen in praise of the curative properties of tea many centuries later.

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série, 92 (4): 293–324 (esp. p. 318); Iwama (2004) writes that 'another way of writing' the term *kǔcài* 苦菜 'bitter vegetable' was *xuǎn* 選, which, she suggests, based on phonetic similarity, 'can also be written' as *chuǎn* 荈. However, the reconstructed Middle and Old Chinese pronunciations for these two ideograms are as distinct as the modern Mandarin pronunciations (Edwin George Pulleyblank. 1984. *Middle Chinese: a Study in Historical Phonology*. Vancouver: University of British Columbia Press; Starostin (1989); Edwin George Pulleyblank. 1991. *Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese and Early Mandarin*. Vancouver: University of British Columbia Press; William Hubbard Baxter III. 1992. *A Handbook of Old Chinese Phonology*. Berlin: Mouton de Gruyter; Baxter and Sagart (2014), pp. 16, 128).

48 Nishimura Masanari, Otsuki Yoko, Shinohara Hirokata, Okamoto Hiromichi, Miyake Miho, Miyajima Junko, Kumano Hiroko, Hino Yoshihiro and Sato Minoru. 2008. 'Tea in the historical context of East Asia: Cultural interactions across borders', pp. 195–226 in Nishimura Masanari, ed., *International Academic Forum for the Next Generation, Volume 1: Cultural Reproduction on its Interface from the Perspectives of Text, Diplomacy, Otherness and Tea in East Asia, Conference held at Kansai University, Ōsaka, 13 and 14 December 2008*. Ōsaka: Institute for Cultural Interaction Studies of Kansai University.

49 Huáng (2000: 512, 519).

50 Marié (2008) in Raibaud and Souty (op.cit., p. 114).

Tea Becomes Fashionable in the Táng

The Old Chinese character *tú* 荼 had two distinct readings, and in the first chapter of his treatise Lù Yǔ 陸羽 (733–804) explains the structure of the new character *chá* 茶 for the word unambiguously denoting tea. Lù Yǔ tells us that the first flush of tea was called *chá* 茶, whereas the later pickings in the year were called *míng* 茗 and *chuǎn* 荈. He also mentions a now defunct character *shè* 蔎 representing a name for tea used by the people of Shǔ 蜀. This passage in his treatise essentially repeats a formulation by Guō Pú 郭璞 (276–324) in his commentary on the *Ěryǎ* 爾雅.

The name *chá* 茶, according to the *Classic of Tea*, is properly speaking essentially the first flush of the tea harvest. Both Guō Pú 郭璞 in the early 4th century and Lù Yǔ 陸羽 in the late 8th century reported that the term *chá* 茶 originally designated the first flush. What do we mean by the word *flush*? In English the intransitive verb *flush* is used with reference to plants when they send out fresh shoots, particularly in the spring, as in 'Our rose bush has begun to flush'. As a noun in tea-speak, a *flush* denotes the top two leaves and a bud when picking tea. For some, a *flush* denotes the top three leaves and a bud. Metonymically, a *flush* denotes a harvest or tea picking, as when we speak of the 'first flush' or the 'second flush'.

In the popular imagination, Lù Yǔ is canonised or deified as a sage of tea, but in many ways he was very much an exponent of his time. Tea drinking as we know it today first came to enjoy widespread popularity during the Táng 唐 dynasty (618–907 AD). The rising curve of tea's popularity was steepest during Lù Yǔ's lifetime, and Lù Yǔ was able to lay his fingers on the pulse of this new fashion. His research and writings came to epitomise the knowledge and the love of tea. Yet Lù Yǔ was not the only one to write about tea at this time.

In the sixth volume of the *Record of What Mr. Fēng Saw and Heard* (*Fēngshì wénjiān jì* 封氏聞見記), written in 756, the author Fēng Yǎn 封演, like his contemporary Lù Yǔ 陸羽, recorded that tea picked in the early season was called *chá* 茶 and tea picked in the late season was called *míng* 茗. He also observed that tea drinking had spread as far as Shāndōng 山東 and Cháng'ān 長安, that an infusion of tea leaves was imbibed by Zen monks to keep them awake during meditation until late in the evening, that people in shops all over the country were eager to put down their money to buy tea, that the drinking of tea had already spread to Tibet, and that the Uighurs had then recently also adopted the habit of tea drinking.[51]

Whereas Zhāng Huá's 張華 reference to 'genuine' *tú* in the second half of the 3rd century AD showed a clear sense of trepidation in northern China when it came to the unfamiliar commodity of tea, the writings of Fēng Yǎn record that by 756 the practice of tea drinking had gained in popularity, spread far and wide and also become well established throughout northern China during the Táng. It is historically poignant that the *Dialogue between Tea and Wine* (*Chá jiǔ lùn* 茶酒論) by Wáng Fū 王敷 dates from the end of the Táng period. In this dispute, tea and wine are depicted as arguing with each other about their relative merits and demerits. In the end, water intercedes to point out its own indispensability to both of them and to assert its superiority.[52] Water urges tea and wine never again to quarrel, but to be best friends.[53]

In the Táng, this literary piece celebrates a paradigm shift, and a gradual switch from alcohol to tea as the beverage with which to regale guests. During the Shāng (16th–11th centuries BC) and Zhōu (11th–3rd centuries BC), the Chinese indulged lavishly in beer and distilled spirits. The archaeolo-

51 Paul Jakov Smith. 1991. *Taxing Heaven's Storehouse: Horses, Bureaucrats and the Destruction of the Sichuan Tea Industry, 1074–1224*. Cambridge, Massachusetts: Council of East Asian Studies, Harvard University (pp. 53, 358); Nishimura et al. (2008: 211).

52 The Aztecs similarly opposed the drinking of salubrious chocolate to the potations of the native tipple *octli*, made from fermented agave (Sophie Dobzhansky Coe and Michael Douglas Coe. 1996. *The True History of Chocolate*. London: Thames & Hudson, pp. 77–80).

53 Wáng Fū 王敷. 2013. *Dialogue du thé et du vin* 茶酒論 (avant-propos de Tseng Yu Hui et Gil Delannoi). Paris: Berg International.

gical record preserves an elaborate repertoire of bronze ritual vessels for the consumption of alcohol. These diverse ornate liquor vessels which fill many Chinese museums have been labelled by archaeologists variously as *gú* 觚 'beaker', *hú* 壺 'liquor vessel', *zūn* 尊 'liquor vessel', *zhì* 觶 'goblet', *gōng* 觥 'animal-shaped liquor receptacle', *bēi* 杯 'beer bowl', *yǒu* 卣 'spiced millet liquor vessel', *jiǎ* 斝 'vessel for libations in honour of the ancestors', *hé* 盉 'vessel for mixing liquor', *yí* 彝 'large liquor container', *lěi* 罍 'liquor receptacle', *líng* 鐳 'liquor receptacle' (modified from *lěi* 罍) , *jué* 角 'decanter' and *jué* 爵 'decanter'.

These receptacles were used for storing, blending and serving beer and spirits brewed from the millets *Setaria* and *Panicum*, which were sacred not just to the ancestors of the Chinese, but also to the ancestors of their linguistic relatives, such as the Kiranti of eastern Nepal and the Gongduk of central Bhutan. Whilst the Chinese in the Táng underwent a gradual but fundamental change from the potation of spirits to the sipping of tea, their ancient cousins in the eastern Himalayas preserved the ancestral toping traditions and ceremonial libations in their rites and rituals.

Just as tea began to supersede alcohol in the Táng, so too archaeological finds reflect this major transition. Finds of later date include tea stories etched in stone at the *jīnshā* 金沙 'golden sands' spring on Gùzhǔ 顧渚 hill in Chángxīng 長興 county in Zhèjiāng 浙江 dating from the Táng dynasty. At Jiàn'ōu 建甌 in Fukien (*Fújiàn* 福建), an 80-word Sòng dynasty stone cliff inscription preserves a tribute to tea. Táng dynasty tea sets recovered in May 1987 from the palace vault underneath the Fǎmén 法門 temple in Shǎnxī 陝西 include royal tea cases in gilt silver, a tea caddy woven out of metallic yarn, a tortoise-shaped tea caddy in gilt silver, tea grinding mills, spoons, tweezers and a silver tea stove. Tombs from the Liáo 遼 dynasty (907–1125) have been found containing tea sets and wall paintings about tea infusion.[54]

54 Liu Feng and Cheng Qikun (2001).

A Tea Sage Is Discovered under a Stone Bridge

Most famous in the history of tea was the sage Lù Yǔ 陸羽 (733–804 AD), who wrote the *Classic of Tea* (*Chájīng* 茶經), which tells us all about tea. With historical hindsight, it may be said that Lù Yǔ played a key role in the history of tea. At the same time, he was also riding the wave of developments which had already been set into motion before he was born. Chán 禪 Buddhism, better known as Zen Buddhism, flourished during the Táng. Tea is believed to have been cultivated in monastic gardens in the Yangtze valley by the 5th century AD. According to the account by Fēng Yǎn 封演 from 756, there was a meditation master named Xiángmó 降魔 in Shāndōng during the Kāiyuán 開元 era (713–741 AD), who prescribed tea to his disciples as an aid to sustain alert meditation at the monastery of Língyán temple 靈巖寺, about 12 km northwest of Mount Tài 泰山.

We know that Lù Yǔ too first learnt about tea in a monastery. His importance lies in the fact that he popularised the monastic variety of tea in the secular world, where he even attracted the attention of the emperor, and Lù Yǔ was both a tea expert and an aesthete. His colourful peripatetic childhood began as an orphan in what today is Húběi 湖北 province, but Lù Yǔ finally ended up in Tiáoxī 苕溪 in the province of Zhèjiāng 浙江, where he befriended literati, calligraphers and poets and wrote his famous *Classic of Tea*.

Lù Yǔ wrote an autobiography entitled *Instructor Lù's Autobiography* (*Lù wénxué zìzhuàn* 陸文學自傳), which was completed in 761 and therefore does not tell the whole story of his life. Other sources about his life include the accounts contained in the *New Book of the Táng* (*Xīn táng shū* 新唐書), written by Oūyáng Xiū 歐陽脩 (1007–1072) and Sòng Qí 宋祁 (998–1061), and in the *Record of Talented Men of the Táng Dynasty* (*Táng cáizǐ zhuàn* 唐才子傳) by Xīn Wénfáng 辛文房, compiled some time in the late 13th or early 14th century.

According to tradition, Lù Yǔ was abandoned by his parents under a stone bridge in 733. His crying aroused the honking of wild geese, and con-

FIGURE 2.6
Sculpture of the joyous tea sage Lù Yǔ 陸羽 in the garden of the Tea Museum at Hángzhōu
COURTESY OF DAVID LYONS

sequently he was discovered on a river bank by a Zen *śramaṇa* श्रमण or meditation master (*chánshī* 禪師) named Zhìjī 智積 outside of the Lónggài 龍蓋 monastery in Jìnglíng 竟陵, a city in Húběi province which was renamed Tiānmén 天門 in 1726. The monk Zhìjī consulted the *Book of Changes* (*Yìjīng* 易經) and obtained the 53rd hexagram ䷴, called *jiàn* 漸 'gradual, progressive', which denotes progress, advance or development and is associated with the image of a flock of wild geese approaching land. Consequently, he named the boy Lù Yǔ 陸羽, a name which combined the characters denoting land and wing, evoking the image of a gracefully landing wild swan, and gave him the style name Hóngjiàn 鴻漸, which likewise suggests the same image.

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Lù Yǔ learnt about tea in the monastery, where he studied the Buddhist sūtras from age nine. He defied his Zen master Zhìjī 智積 by professing an

interest in Confucius and non-Buddhist texts. As a disciplinary measure, his Zen master gave him onerous chores to do such as cleaning latrines, plastering walls and tending cattle, and at the age of twelve Lù Yǔ ran away and became a comic actor in a travelling troupe.

Whilst performing in a play entitled *The False Officer* (*Jǐ guān* 假官) in 746, Lù Yǔ's talents were noticed by the Jìnglíng governor Lǐ Qíwù 李齊物, who adopted him and took him into his own home. Subsequently, Lǐ Qíwù sent the young Lù Yǔ to the reclusive scholar Zōu Fūzī 鄒夫子 on Mount Huǒmén 火門山 to study the Confucian classics. There Lù Yǔ brewed tea for the recluse, just as he had learnt to do in the monastery. In 752, after several years with Zōu Fūzǐ, Lù Yǔ left to return to governor Lǐ Qíwù. Upon returning to Jìnglíng, he discovered that his older friend Lǐ Qíwù had been demoted in 746 and replaced by a new man, Cuī Góufǔ 崔國輔.

The new governor also took an interest in Lù Yǔ. Despite a difference in age, they found that they shared a love for tea and poetry, and became close friends. Two years later, in 754, Cuī Góufǔ helped Lù Yǔ to undertake an expedition to the tea region of Bāshān Xiáchuān 巴山峽川 in Sìchuān. Crisscrossing this region, Lù Yǔ collected tea samples and sampled different water sources for the preparation of tea. He also began to familiarise himself with the methods of tea production, a programme of research which he would continue to pursue for decades.

The Tea Sage Becomes a Man

In the summer of 755, Lù Yǔ headed back to Húběi province. In October 755, the rebellion against the Táng dynasty broke out which had been masterminded by Ān Lùshān 安祿山, a general who had had a Sogdian father and a Turkish mother. At first, emperor Xuánzōng fled to Chéngdū, where he remained with his army and his court from 756 to 757. During this uprising, which was to last until 763, many Chinese fled south.

In 756, Lù Yǔ moved to Húzhōu 湖州 on the southern shore of the Great Lake (*Tàihú* 太湖), where he befriended the poet Jiǎorán 皎然 (720–804) at the Miàoxǐ 妙喜 temple on Zhù 杼 hill. The young Lù Yǔ remained with the older Jiǎorán, who became his bosom friend and mentor in matters of tea and other subjects. Two years later, in 758, Lù Yǔ and Jiǎorán travelled together to Shēngzhōu 升洲, a town that has today been swallowed up and absorbed by modern Nanking (*Nánjīng* 南京). There they stayed together at the Qīxiá 棲霞 monastery on Qīxiá hill.

After four years living and travelling together with Jiǎorán, Lù Yǔ withdrew to live a more independent existence. In 760, he settled on Gùzhǔ 顧渚 hill, a place tucked up in the hills overlooking the Great Lake to the west of Húzhōu 湖州. Here he is said to have composed the first draft of his *Notes on Tea* (*Chájì* 茶記). He would later revise the work in 764 and once again in 775, and ultimately this piece of writing would be expanded and refined into his famous tea treatise.

Initially, Lù Yǔ moved into the house of the prolific and more mature Taoist scholar Wú Jūn 吳筠, where he had access to a large private library. During this period in his life, Lù Yǔ was often seen in the forest, leading a carefree and whimsical existence. Lù Yǔ continued to nurture his intimate friendship with Jiǎorán, with whom he often shared tea and visited new water sources. Lù Yǔ visited many tea gardens and continued his research. He was often consulted as a tea master, and his services as a scribe, scholar, editor and tea expert were often recruited.

Lù Yǔ befriended many poets and literati, including the famous calligrapher Huáisù 懷素 (725–785) and the writer Yán Zhēnqīng 顏真卿 (709–785) at Húzhōu. In 778, Yán Zhēnqīng recommended Lù Yǔ for an appointment at the imperial court at Cháng'ān 長安 under emperor Dàizōng 代宗 (*imperabat* 762–779). However, Lù Yǔ promptly turned down this lucrative honour. Although he left the Buddhist monastery in his childhood, Lù Yǔ's life was imbued with monastic values. Lù Yǔ created no family and left no progeny. He

FIGURE 2.7
Jar with four handles embossed with intricate impressions in Yuè ware 越器, the ceramic glaze recommended by Lù Yǔ to bring out the true natural colour of tea, Eastern Hàn dynasty, 1st to 2nd century
PHOTOGRAPHED BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

eschewed alcohol and sought no fame, wealth or power. He chose instead for a life of freedom and privacy in harmony with nature. He is credited with popularising the monastic habit of drinking pure tea rather than serving tea as a soup with dressings and flavourings.

During Lù Yǔ's lifetime, tea was still prepared by steaming the tea leaves, then pounding the steamed leaves, pressing the pounded leaves into iron moulds (*guī* 規) and then drying the tea cakes over low heat, hanging up the cakes to dry further and then packing them in bamboo leaves or paper and binding them with split bamboo or reeds. Emperor Dàizōng exacted tribute tea (*gòngchá* 貢茶), which consisted both of tea excised as an imperial tribute as well as *guānbèi* 官焙, literally 'government baking'. The *guānbèi* tea was tea from government plantations that had been baked into tea bricks. One of the famous tribute teas of the period included Yángxiàn Purple Bamboo tea (*yángxiàn zǐsǔn chá* 陽羨紫筍茶), an early spring season flush from Jiāngsū. New tea was tasted at the imperial capital at Cháng'ān 長安 (today's Xī'ān 西安) in late March at the Pure Brightness festival (*qīngmíng* 清明). Emperor Dàizōng instructed the governors of Húzhōu 湖州 and Chángzhōu 常州 to supervise the plucking and processing of tea for tribute tea.

Only after emperor Dàizōng's eldest son Lǐ Kuò 李適 acceded to the throne in 779 as emperor Dézōng 德宗 (*imperabat* 779–805), two decades after the first draft had been written down, did Lù Yǔ finally complete his *Classic of Tea*. The book was published in 780 with financial assistance provided by Jiǎorán. In the same year that the *Classic of Tea* came out, emperor Dézōng decreed the first levy on tea, and in 784 the Táng emperor imposed a state monopoly on the tea trade. Whilst Europe had fallen into the Dark Ages, Táng dynasty China experienced a cultural dawn despite a meddlesome government seeking tightly to control the economy.

FIGURE 2.8
Yuè ware 越器 bowl with characteristic olive green glaze over a grey stoneware body, Five Dynasties period, diameter 15.9 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

Lù Yǔ's Tea Treatise and His Old Age

In his book, Lù Yǔ recommended Yuè 越 ware, which has the greenish hue of jade, in order to bring out the true natural colour of tea.[55] He described the drinking of tea as an aesthetic experience to be attended by beauty. Lù Yǔ was no doubt inspired by the metaphor of liquid jade contained in the now antiquated expressions *yùyè* 玉液 'jade sap' and *qióngjiāng* 瓊漿 'jade broth' or 'nectar', which sometimes occurred in combination as the expression *qióngjiāng yùyè* 瓊漿玉液 'nectar liquid jade' in the writings of earlier Chinese poets, and in the past these collocations were applied not just to tea. Over one thousand years later, this same metaphor would be popularised in the West by Okakura.[56]

The *Classic of Tea* deals with the legendary origins of tea, the horticultural aspects of growing tea, the tools and implements used for picking, steaming, drying and pressing tea, the proper storage of tea leaves and the manufacture of cakes of pressed tea leaves. The treatise goes on to discuss tea ware and detail the guidelines for brewing and drinking tea. The *Classic of Tea* also describes the varieties of tea and the principal localities where tea was grown. The contents are as follows:

1. Origin of the tea plant
2. Tools for handling and gathering the leaves
3. Picking and harvesting tea
4. The twenty-four utensils for the preparation of tea
5. The preparation of the tea
6. Tasting and drinking tea
7. Historical accounts of tea
8. Principal areas of tea production
9. Non-essential utensils
10. Illustrations of tea utensils

Lù Yǔ preferred the taste of wild tea trees to those of cultivated tea from plantations. He preferred new shoots before they uncurled. He advocated picking the tea on clear days when the morning dew was still on the leaves and not under overcast skies or when it had been raining.

In his day, much of the best tea was still held to come from the areas in Sìchuān that once formed parts of the kingdoms of Bā 巴 and Shǔ 蜀, whence the practice of tea drinking had originally spread. His eighth chapter makes abundantly clear, however, that by the time of the Táng dynasty tea production had already spread eastward to the areas south of the Yangtze. In Lù Yǔ's time, the eastern coastal provinces had already begun to outshine the original tea homeland further west, both in terms of the volume and quality of the tea produced.

At the time of Lù Yǔ, tea was green and not black, but it was also mostly compressed into bricks. During the Táng dynasty, tea leaves were

55 For the images of pieces from the collection of the Ōsaka Museum of Oriental Ceramics, I cordially thank the director Degawa Tetsurō 出川哲朗, and for the images of important Oriental art from Sotheby's, I thank Robert Bradlow, Head of Chinese Ceramics and Works of Art at Sotheby's in London, and Harold Yeo 楊為信 in New York.

56 Okakura Kakuzō. 1906. *The Book of Tea*. New York: Fox Duffield & Co. (p. 29).

steamed and formed into tea bricks for the purposes of storage and trade. Lù Yǔ described how the plucked tea leaves were steamed in an earthenware or wooden steamer, then pounded in a mortar, then patted into shape and compressed into a mould. The dried cake was then placed on a rack over a drying pit. The cakes were sometimes pierced in the middle and strung on bamboo stringers, and the tea cakes were also packed in paper wrappers. These tea bricks were roasted, and tea was prepared by breaking off a piece of tea brick, pulverising the tea and subsequently decocting the tea powder thus obtained. Sometimes a pinch of salt was added, as recommended by Lù Yǔ.

In 783, Lù Yǔ moved to Shàngráo 上饒, and in 789 he settled at Hóngzhōu 洪州 in the province of Guǎngzhōu 廣州. Then in 794, Lù Yǔ went to Sūzhōu 蘇州, where on the northern slope of Hǔqiū 虎丘 mountain he built simple huts and a stone spring, which today is named after him. In 799, Lù Yǔ returned to his beloved Húzhōu 湖州, where he lived happily and peacefully in his pavilion 'green pond hermitage' (*qīngtáng biéyè* 青塘別業). In the year 804, he died, having reached the respectable age of 71. He was buried on Zhù 杼 hill, where, as a 23-year-old man, he had first befriended Jiǎorán.

Lù Yǔ's fame grew after his death, and he joined the ranks of China's cultural heroes. Even during the Táng 唐 dynasty, he was known by the title of *cháshén* 茶神 'tea deity'. Although reputed to have been a scholar in various fields, he is principally known for his work on tea. The no longer surviving original of the *Classic of Tea* was a scroll in three parts, just over 7,000 characters in length. The oldest surviving copy of the text is contained within a later Míng dynasty recension of an anthology entitled *Sea of One Hundred Streams of Learning* (*Bǎi chuān xúe hǎi* 百川學海), that had originally been compiled by Zuǒ Guī 左圭 in 1273.[57] Though of modest size, the treatise contains extensive factual material on tea, the soil and tea cultivation. Lù Yǔ also discussed the inherent qualities of the terroir of various places where he sojourned in the course of several decades of travel.

Lù Yǔ's *Classic of Tea* has often been extolled as being harmoniously imbued with the spirit of Buddhism, Confucianism and Taoism. Although these three strands of tradition may arguably be palpable in tea culture, it is vanishingly unlikely that Lao Tzu (*Lǎozǐ* 老子), the Buddha or Confucius, who all lived over a millennium before Lù Yǔ, themselves ever tasted tea or even knew what tea was. Some writers have been seduced into making anachronistic extrapolations about tea and early Taoism, but such musings are ahistorical. Lù Yǔ's *Classic of Tea* does contain a reference to a Taoist tea master named Dānqiūzi 丹丘子 'master of the cinnabar mound', whom Lù Yǔ viewed as an ancestral *xiānrén* 仙人 'fairy',[58] although the figure appears to be a primarily Táng dynasty motif. Instead, such older philosophical principles were later subsumed into tea culture as this new set of practices developed in the context of Táng dynasty China, where Taoism enjoyed imperial patronage. Writing over one thousand years later, in 1905, Okakura Kakuzō, for whom the Japanese tea ceremony represented the cumulative embodiment of philosophical principles handed down through the centuries, would write: 'Teaism was Taoism in disguise'.[59]

57 Jiāng Yí and Jiāng Xīn. 2009. *The Classic of Tea written by Lu Yu, The Sequel to the Classic of Tea written by Lu Tingcan, translated into modern Chinese by Jiang Xin and Jiang Yi, translated into English by Jiang Yi and Jiang Xin* (two volumes). Chángshā: Húnán People's Publishing House (Vol. 1, p. 35).

58 Francis Ross Carpenter. 1974. *The Classic of Tea by Lu Yü*. Boston: Little, Brown & Company (p. 127).

59 Okakura (1906: 44). In the specific context of the Japanese tea ceremony as the embodiment of older philosophical traditions which had pre-existed tea culture, Okakura's choice of the past tense was precise and judicious. In one of the first reviews of the slim volume, the very first edition of which came out in 1905, the author was quickly misquoted as having written 'teaism is Taoism in disguise', whereby the tense of the verb was switched by the reviewer to the present (e.g. 'Teaism and Taoism', *San Francisco Call*, 97 (131): 22 [Sunday 9 April 1905]). Even without the switch of tense, Oka-

FIGURE 2.9
Yuè ware 越器 bowl with three fish and decorative whirling watter ripple incisions, in a warm celadon glaze, Northern Sòng dynasty, diameter 13.3 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

The 81 stanzas of the *Tao Tê Ching* (*Dàodéjīng* 道德經) are attributed to the scribe Lao Tzu (*Lǎozǐ* 老子), who lived in the 6th century BC. This work, together with the eponymous text produced by Chuang Tzu (*Zhuāngzǐ* 莊子) in the 3rd century BC, form the fundamental texts of Taoism. Confucius (*Kǒngzǐ* 孔子) lived from 551 to 479 BC in the Lǔ 魯 kingdom, a vassal state of the Zhōu. The historical Buddha was Siddhārtha Gautama सिद्धार्थ गौतम of Kapilavastu कपिलवस्तु, a village located in what today is Nepal's Lumbinī district. He taught in northern India in the late 6th and early 5th century BC. Legend credits Bodhidharma बोधिधर्म with introducing Chán or Zen Buddhism to China in the 5th century AD, but it appears that the teachings of Buddhism had actually already reached China by the 1st century AD.

Lù Yǔ is remembered as the ideal tea master, who dedicated his entire life to tea. Lù Yǔ's tea culture heritage inspired Japanese tea masters, whose tea ceremony embodies an aesthetic of natural order and transience called *wabi sabi* 侘寂, said to find its roots in the *Classic of Tea*.[60] Emperor

kura's attempt to trace the cultural origins of Japanese teaism to early Taoism in China barely avoids the pitfall of anachronism. The switch of tense in the misquote by the San Francisco newspaper review presaged some jarring anachronisms that would crop up in popular writings on tea with regard to tea and Taoism (e.g. Aaron Fisher. 2010. *The Way of Tea*. North Clarendon, Vermont: Tuttle Publishing).

60 English translations include: Ukers. (1935, I: 14–22), the handsomely produced translation by Carpenter (1974), and Jiāng and Jiāng (2009, I: 1–89). An Italian translation directly from the Chinese was provided by Marco Ceresa (1990. *Lu Yu—il Canone del tè*. Milano: Leonardo). Carpenter's English translation was translated into French by sœur Jean-Marie Vianney (1977. *Le classique du thé par Lu Yu*. Paris: Robert Morel), and a French translation directly from the Chinese was later done by Véronique Chevaleyre (2004. *Lu Yu—Le Cha Jing ou Classique du thé*. Paris: Jean-Claude Gawsewitch). A Czech translation was published by Olga Lomová (2002. *Místr Lu Jü—Klasická kniha o čaji*. Praha: Spolek milců čaje a DharmaGaia). Olga

Dézōng 德宗 called Lù Yǔ a tea physician or healer (*chábóshì* 茶博士), and he quickly became revered as a tea sage (*cháshèng* 茶聖) or the first amongst the tea immortals (*cháxiān* 茶仙). A century after his death, some tea merchants would pour libations on tiny idols of Lù Yǔ for good luck in their business. Archaeological finds from Fúfēng 扶風 in Shǎnxī 陜西 appear to provide evidence for those who are inclined to argue that the tea ceremony, which has been attributed to Lù Yǔ, may in its most rudimentary form have already come to be practised during the Táng.

Tea and the Water with Which It Is Made

Lù Yǔ rightfully ascribed great importance to the quality, purity and taste of the water used in the preparation of tea. In the *Roelof Hartstraat* in Amsterdam, there is a water store selling nothing but mineral waters from all over the world. Many buyers are drawn to expensive bottled waters from exotic places such as Pacific islands or polar glaciers. Yet many of the most interesting waters do not come from so far afield. Real water tasters are already overwhelmed by the differences in taste and texture of natural spring waters just from various parts of Europe alone.

The lowliest of Nepalese farmers and the most humble of Bhutanese peasants are also veritable connoisseurs of water, for they derive their water from natural Himalayan springs, and it is commonplace for them keenly to discuss their experience of the vastly different tastes of water from different sources. Raised in such abundance, Nepalese and Bhutanese travellers have often expressed amazement and horror at the water quality in some American cities, where the chlorinated liquid which flows from the taps strikes them as non-potable, even though most of the locals are evidently inured to the foul taste.

It should be obvious that the texture and taste of the water is a major determinant in the quality of tea. The quality of water varies from country to country and from city to city, and even in places like New York water quality is said to have greatly improved. Many a Dutch tea connoisseur today is discerning enough to prepare his tea with bottled spring water which is not as hard as what emerges from the tap in Holland. Some parts of the world, however, are blessed with delicious water.

The *Report on Water for Brewing Tea* (*Jiānchá shuǐjì* 煎茶水記) was written by Zhāng Yòuxīn 張又新 in 814, just ten years after Lù Yǔ's death. This source records a legend about Lù Yǔ's unique water tasting abilities. The same legend is repeated in a later edition of *Three Hundred and Sixty Stories of Ancient Masters* (*Sānbǎi liùshí háng zǔ shīyé chuán qí* 三百六十行祖師爺傳奇).

It is said that Minister Lǐ Xiù 李秀 and thirty governors asked Lù Yǔ to select water for brewing tea. Lù Yǔ said that the best water for brewing tea could be drawn from a mountain spring at the side of the Yangtze at Nánlíng 南零. Lǐ Xiù ordered two of his best officers to go fetch this water. Reaching the cool riverside spring, they drew water. Both returned from Nánlíng, but carelessly on the way they spilt half of the water in their buckets. So, in order to make up for the loss, they added draughts of water from a number of running streams on the way.

In plain view of Lǐ Xiù, Lù Yǔ tasted a ladle of water from the bucket and suddenly pronounced:

Lomová's original Czech translation is special because, before the commercial hardcover book appeared and quickly sold out in book stores in Bohemia and Moravia in 2002, just one hundred numbered copies were released that had been printed on hand-made paper, bound in a traditional Chinese binding and adorned with the beautiful calligraphy of Jiří Strak. The first numbered copy of this lovely limited edition was presented by the Czech *Spolek milců čaje* 'company of tea devotees' to the former Czech president Václav Havel, and nine copies were presented to outstanding personalities in Czech modern life, such as Pavel Tigrid, Josef Škvorecký, Svatopluk Karásek, David Vávra and Marek Eben. Hungarian and Russian translations are: Nyiredy Barbara és Tokaji Zsolt. 2005. *Lu Jü: Teáskönyv—A teázás szent könyve a nyolcadik századi Kínából.* Budapest: Terebess Kiadó; А.Т Габуев и Ю.А. Дрейзис. 2007. Лу Юй—Канон чая. Москва: Гуманитарий.

FIGURE 2.10
Yuè ware 越器 lobed celadon dish with carved floral scroll design, early Southern Sòng dynasty, 12th century
PHOTOGRAPHED BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

'This is not Nánlíng water, but contains bits of water from the river current'. Both officers were alarmed and spoke at once: 'We both drew water from the middle of the cool spring at Nánlíng, and there are one hundred people capable of confirming this'. Lù Yǔ said nothing but quietly poured out half of the bucket, then said: 'Now only Nánlíng water remains in the bucket'. Both officers were forced to explain what had happened. Upon hearing what had transpired, Minister Lǐ Xiù exclaimed, 'People, this man is a genuine teacher!'

The anecdote is incredible, but it is true that the taste of the water is crucial to the flavour of tea. It is perhaps also true that some people are not as sensitive tasters as others. A treatise entitled *Yield of the Sources* (*Quánpǐn* 泉品), which is sometimes attributed to Lù Yǔ, although the actual provenance and authorship of the work are doubtful,[61] enumerated the twenty clearest and most tasty water sources for the preparation of tea. This list of the most delicious sources of water is certainly out of date today. The quality of sources changes over time, and this applies *a fortiori* to water drawn directly from a river.[62]

61 James A. Benn. 2015. *Tea in China: A Religious and Cultural History*. Honolulu: University of Hawai'i Press (pp. 114, 226).

62 More of historical interest than of practical value today, the list runs as follows: (1) the waterfall on Mount Lú 廬山 in the Kāngwáng 康王 valley, (2) the spring at Wúxī 無錫 on Mount Huì 惠山, (3) the water running over the stones of the Qízhōu 蘄州 near Lánxī 蘭溪, (4) the water running over the stones of the Xiāzhōu 峽州 near Mount Shānzì 扇子山, (5) the rocky spring at the Hǔqiū temple 虎丘寺 in Sūzhōu 蘇州, (6) in Fāngqiáo 方橋 pond at the Zhāoxián temple 招賢寺 on Mount Lú 廬山, (7) water drawn from the cool source alongside the Yangtze river at Nánlíng 南零, (8) from the Xīdōng 西東 waterfall on Mount Xī 西山 at Hóngzhōu 洪州, (9) water drawn from the upper course of the Huái 淮 at Tángzhōu 唐州 in the Tóngbǎixiǎn 桐柏縣 region, (10) in the Lóngchí 龍池山 mountains at Lúzhōu 廬州, (11) from the Guānyīn temple 觀音寺

The Blossoming of Tea Culture and Porcelain

Tea culture came to bloom in China during the Táng period. The practice of tea drinking gained in popularity, spread far and wide and also became well established throughout northern China. Until the Táng period, the best tea was reputed to have come from the kingdoms of Bā 巴 and Shǔ 蜀, a region which corresponds to the eastern half of today's Sìchuān province. Yet by the Táng the centre of tea production had already moved east to the southeastern coastal provinces, and Lù Yǔ himself opined that the very best tea in his day came from his own beloved Gùzhǔ 顧渚 hill overlooking the Great Lake (*tàihú* 太湖).

During the Táng, tea was still prepared as described by Lù Yǔ. The tea leaves were boiled or steamed and pressed into moulds. The tea bricks were dried in the sun and then baked over a fire. Imperial tribute was exacted in the form of tea bricks (*gōngtíng gòngchá* 宮廷貢茶). Tea bricks were employed as currency in Central Asia, Tibet and Mongolia and were also used in parts of the Chinese empire where paper money was slow to gain currency. Some of the old tea cakes in collections are still curated as numismatic items.

In order to prepare tea for drinking, a bit was broken off from the tea brick. This chunk would be ground to a powder in a mortar, and the ground tea was then steeped in boiling water. In retrospect, it is easy to understand how this procedure was already a precursor to the development of *matcha* or powdered green tea. However, this Táng dynasty procedure would first have to undergo quite a number of crucial refinements before it would evolve into the sophisticated technique of *matcha* production. What literary sources tell us about tea drinking during the Táng dynasty is corroborated by archaeological evidence from the period, which includes specific tools and vessels for grinding, sifting, storing, cooking and serving tea from elaborately decorated and ornate gilt sieves to exquisite tea caddies.

Lù Yǔ had many contemporaries and followers who were just as enamoured of tea as he was. The great tea poet Lú Tóng 盧仝 (790–835) is known mainly for his poems on tea, with his 'Seven bowls of tea' (*Qī wǎn shī* 七碗詩) having acquired an almost emblematic renown, with each succeeding bowl of tea propelling the poet into higher realms of contentment until, overwhelmed and sublimely content, he feels compelled to leave the seventh bowl untouched. The poem captures a spirit of serenity which we continue to associate with tea today. Ironically, the author of this poignant poem died a violent death in a tea shop during the vicious bloodbath of the Sweet Dew (*gānlù* 甘露) incident.

The poet Bái Jūyì 白居易 (772–846) likewise praised the virtues of tea in verse, and in this period the extolling of tea in Chinese poetry gradually began to replace the glorification of alcohol. Bái Jūyì was educated at the Táng dynasty capital of Cháng'ān 長安, which since the Míng dynasty has been known as Xī'ān 西安. He served as prefect in the tea towns of Hángzhōu 杭州 and Sūzhōu 蘇州.

In 814, Zhāng Yòuxīn 張又新 extolled the virtues of eight water sources providing the cleanest and most delicious water for brewing tea in his classic *Report on Water for Brewing Tea* (*Jiānchá shuǐ jì* 煎茶水記). His best sites include four temple springs and three points along Chinese rivers. In 860, Wēn Tíngyún 溫庭筠 wrote the *Records of Tea Picking* (*Cǎi chá lù* 採茶錄).

During the Táng, the Buddhist monk Liú Zhēnliàng 劉貞亮, also remembered as Liú Zhēndé 劉貞德, wrote the treatise *The Ten Virtues of Sipping Tea* (*Yǐn chá shí dé* 飲茶十德). These ten virtues are that tea has the blessing of all the deities, tea promotes filial piety, drives away evil spirits, ban-

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at Dānyáng 丹陽, (12) from the Dàmín temple 大明寺 at Yángzhōu 揚州, (13) filtered water from drawn from the upper reaches of the Hàn 漢 at Jīnzhōu 金州, (14) at the Yùxū cave 玉虛洞 from the mountain stream Xiāngqī 香溪 near Guīzhōu 歸州, (15) from the Luò 洛 in the Wǔguān 武關 hills at Shāngzhōu 商州, (16) water drawn from the Sōng 淞 at Wú 吳, (17) atop the Qiānzhàng 千丈 waterfall on Mount Tiántāi 天台山, (18) water from Yuán spring 圓泉 at Chēnzhōu 郴州, (19) from the shallows of the Yánlíng 嚴陵 at Tónglú 桐廬, (20) melted snow water.

FIGURE 2.11
The Táng dynasty poet Lú Tóng 盧仝 having tea, seated on a carpet flanked by a three-legged *zhū* 朱 earthenware teapot, as depicted by the Sòng dynasty painter Qián Xuǎn (錢選 1235–1305). Famous for his poem 'Seven Bowls of Tea', Lú Tóng was killed in a tea shop during the Sweet Dew incident in 835, collection of the National Palace Museum, Taipei

ishes drowsiness, maintains harmony between the five viscera, wards off disease, strengthens friendship, engenders physical and mental discipline, subdues the passions and, finally, ensures a peaceful death. This enumerative work was subsequently emulated by others, both in China and Japan.

With tea came the porcelain vessels from which to drink it. In his *Account of China and India* dated 851, the merchant Sulaimān al-Tājir سليمان التاجر, who visited the port of Canton, described the maritime trade with China and recorded the commodities tea and porcelain. Sulaimān described the delicate thinness and robust strength of porcelain cups, which he attributed to their being made from some superior sort of clay. The transparent liquid imbibed from these vessels was the hot infusion of a Chinese herb the name of which he recorded as *sākh* ساخ, an aromatic but bitter herb that was good against all variety of indispositions.[63] Evidently the Arabian merchant heard the Cantonese form *caa*^{4} 茶 [ts^{h}a: ˨˩],[64] which is pronounced in the low falling or low level Cantonese fourth tone.

Until the 9th century, all maritime trade in Chinese ceramics involved stoneware, and Sulaimān's reference is not just the first report of tea to travel westward across the seas but also the first mention of porcelain outside of China, which, judging from his descriptions, was probably the greenish white Qīngbái 青白 ware, that was also available for use to commoners.[65] Another famous Táng dynasty stoneware was the Yuè 越 ware from Yuèzhōu 越州 near modern Shàoxīng 紹興, south of the mouth of the Yangtze. This greenish glaze made from clay with wood ash and limestone was ancestral to the famous celadon ware of the Sòng dynasty. Another famous Táng dynasty glaze was the white ware known as Xíng 邢 ware from Héběi. Lù Yǔ favoured the greenish hue of Yuè ware in order to bring out the colour of the tea.

The oldest ceramic cultures are found in East Asia, where ceramic vessels have been manufactured for over 10,000 years. These early vessels were already made at a time before the Neolithic agricultural revolution, when the potters who crafted them still subsisted as hunters and foragers. Millennia later, stoneware began to be manufactured in China in the 2nd century BC, and glazed ceramics were developed by the Eastern Hàn period (25–220 AD). True porcelain has been produced since the 3rd century AD but has only been produced on any appreciable scale from the late 6th century onwards.[66]

Porcelain is made from the white kaolin clay, thus called because it was originally found in a cliff at Kaolin (*Gāolǐng* 高嶺 'lofty ridge') near the famous porcelain town of Jǐngdézhèn 景德鎮[67]

63 Gabriel Ferrand. 1922. *Voyage du marchand arabe Sulaymân en Inde et en Chine rédigé en 851 suivi de remarques par Abû Zayd Ḥasan (vers 916), traduit de l'arabe avec introduction, glossaire et index*. Paris: Éditions Bossard (pp. 54, 58).

64 The Cantonese is given in italics in the Jyut^{6}ping^3 粵拼 romanisation devised by the Linguistic Society of Hong Kong in 1993, and the pronunciation between square brackets is provided in the notation of the International Phonetic Alphabet with the tonal contour indicated by a so-called tone letter. Tone letters such as [˧˥] were first designed by Yuen Ren Chao (op.cit.). An improved representation, in which volume, duration and sandhi are represented diagramatically in addition to frequency, is used by Wiedenhof (Jeroen Maarten Wiedenhof. 2015. *A Grammar of Mandarin*. Amsterdam: John Benjamins Publishing Company, p. 14). No attempt is made in the transcription used to represent the effects of tone sandhi in polysyllables, which in Cantonese are complex and have not yet been fully linguistically documented (cf. Stephen Matthews and Virginia Yip. 1994. *Cantonese: A Comprehensive Grammar*. London: Routledge; Robert Stuart Bauer and Paul King Benedict, eds. 1997. *Modern Cantonese Phonology*. Berlin: Mouton de Gruyter).

65 Brian McElney. 2006. *Chinese Ceramics and the Maritime Trade Pre-1700*. Bath: Museum of East Asian Art (p. 17).

66 He Li. 2006. *La céramique chinoise*. Londres: Thames & Hudson; McElney (2006: 13).

67 Like many places in China, the famous porcelain town of Jǐngdézhèn 景德鎮 in Jiāngxī province is a toponymist's nightmare. Originally the town was named Píngzhèn 平鎮 during the Eastern Jīn (317–420). In the Táng dynasty, the town changed its name to Xīnpíng 新平 in 621, but was known from 716 either by the name Xīnchāng 新昌 or Chāngnánzhèn 昌南鎮. Dur-

FIGURE 2.12
Portuguese carrack depicted on an atlas dating from 1565 attributed to Sebastião Lopes

in Jiāngxī 江西 province. Kaolin clay contains the layered silicate material known as kaolinite. The Chinese had both the raw material and the technology to fire the ceramics at very high temperatures and yield hard vitrified yet thin and translucent porcelain.

There is no evidence of Chinese ceramics being traded via the Silk Road until the late 13th century, when these trade routes came to be controlled by the Mongols at the time of the Yuán dynasty (1271–1368). Instead, ceramics, like tea, were traded across the seas. From the Táng to the Míng dynasty, Chinese goods were exported to the Philippines, the Indonesian archipelago, mainland Southeast Asia, India, Ceylon, the Maldives and the East African coast mainly on Siamese, Ceylonese, Malay, Indian and especially Arab vessels. However, visits by Arabian traders from the Near East such as Sulaimān ceased after the bru-

ing the Northern Sòng, when emperor Zhēnzōng 真宗 (*imperabat* 997–1022) sent mandarins to oversee porcelain production for palace use, the town was renamed Jǐngdézhèn 景德鎮 after the Jǐngdé 景德 era (1004–1007) of the emperor's reign, one of the five periods into which his reign was divided.

tal massacre of Persian, Arabian and Jewish traders in Canton (*Guǎngzhōu* 廣州) in 878 led by rebel Huáng Cháo 黄巢.

In the 10th century during the Ten Kingdoms period, the Mǐn 閩 kingdom (909–945) in Fukien and the Southern Hàn 南漢 kingdom (917–971) along the southern Chinese littoral flourished as independent polities for decades. Maritime trade communities flourished, especially the town of Chinchew (*Quánzhōu* 泉州), with Fukienese and Cantonese junks plying the waters of the South China Sea. After the Canton bloodbath of 878, Arabs traded in Chinese goods mainly via insular and mainland Southeast until China opened up to direct trade by merchants from the Near East once again in 1291. From this time, Arabian traders fulfilled the premier role in maritime trade until the Portuguese took Malacca in 1511.[68] The role of the Chinese in maritime trade was basically put to an end when the Sea Ban (*hǎijìn* 海禁) decreed by the Hóngwǔ 洪武 emperor in 1371 impeded Chinese seamen from sailing abroad upon penalty of death, should they return.

Ever since the Northern Sòng emperor Zhēnzōng 真宗 (*imperabat* 997–1022) sent mandarins to oversee porcelain production for palace use at the town of Jǐngdézhèn between 1004 and 1007, this town became the purveyor to the imperial court for over nine centuries until the end of the Qīng dynasty in 1912. When Europeans began to import Chinese porcelain during the Míng, porcelain from this area attained global acclaim. Porcelain or 'china' began to be imported to the West when tea was embraced in Europe, for tea and porcelain have always gone hand in hand, with tea being the principal driving force behind porcelain production. With cobalt blue pigments, the production of blue and white porcelain commenced around 1340, and this porcelain spread as far west as the East African coast before European vessels took over the global trade in porcelain.

During the reign of emperor Wànlì 萬曆 (*imperabat* 1572–1620), blue and white porcelain was produced and imported to Holland, where it became known as *kraak*. From 1602, so much porcelain had also been brought to the United Provinces on Dutch vessels that by 1614 porcelain was already generally in common use in Amsterdam households.[69] From the year 1614, the tin-glazed blue and white Delftware in Holland strove to mimic the far costlier *kraak* then being imported to Europe on Dutch vessels.[70] The term *kraak* 'carrack' was short for *kraakporselein* 'carrack porcelain', which was thus named ever since the capture of the Portuguese carracks *São Tiago* in 1602 and *Santa Catarina* in 1603.[71]

Two Dutch ships of the *Vereenigde Zeeuwsche Compagnie* in Zealand, the *Zeelandia* and the *Langebarck*, under the command of Cornelis Bastiaenszoon, seized the Portuguese carrack *São Tiago* as it was returning from India laden with riches. The seizure of the Portuguese carrack off of the coast of St. Helena on the 14th of March 1602 was witnessed by the Florentine merchant Francesco Carletti, who had the misfortune of being on board the Portuguese vessel.[72] Those Por-

68 McElney (2006: 6).

69 Charles Ralph Boxer. 1976. *Zeevarend Nederland en zijn wereldrijk 1600–1800* (tweede druk). Leiden: A.W. Sijthoff (p. 247).

70 William Pitcairn Knowles. 1913. *Dutch Pottery and Porcelain*. London: George Newnes Ltd.

71 Tijs Volker. 1971. *Porcelain and the Dutch East India Company as Recorded in the* Dagh-Reghisters *of Batavia Castle, those of Hirado and Deshima and other Contemporary Sources*. Leiden: E.J. Brill; Christiaan Jan Adriaan Jörg. 1978. *Porselein als handelswaar: De porseleinhandel als onderdeel van de Chinahandel van de V.O.C. 1729–1794*. Groningen: Kemper [available in English as 1982. *Porcelain and the Dutch China Trade*. The Hague: Martinus Nijhoff]; Maura Rinaldi. 1989. *Kraak Porcelain. A Moment in the History of Trade*. London: Bamboo Publishing; Teresa Canepa. 2008. '*Kraak* porcelain: The rise of global trade in the late 16th and early 17th centuries', pp. 17–64 in Luísa Vinhais and Jorge Welsh, eds., *Kraak Porcelain: The Rise of Global Trade in the Late 16th and Early 17th Centuries*. London: Jorge Welsh Books.

72 Franceſco Carletti. 1701. *Ragionamenti di Franceſco Carletti Fiorentino ſopra le coſe da lui vedute ne' ſuoi viaggi ſi dell'Indie Occidentali, e Orientali come d'altri Paesi*. Firenze: Stamperìa da Giuſeppe Manni (II: 316–329 *et passim*).

FIGURE 2.13
Jacob van Heemskerck (1567–1607) as depicted in an engraving in Emanuel van Meteren's *Historie*, published posthumously in 1613

tuguese seamen who survived the brutal assault were later left stranded on the archipelago of Fernando de Noronha, although Carletti, who was in the service of the grand duke of Tuscany, was taken by the Zealanders back to Middelburg, where he stayed for over three years before receiving an indemnification with which he could return to Florence.

The booty was all the more dazzling when Jacob van Heemskerck seized the 1,500 tonne Portuguese carrack *Santa Catarina* in the Strait of Malacca on the 25th of February 1603, taking possession of its precious cargo of gold, silk and porcelain.[73] Famously, van Heemskerck mercifully released the Portuguese captain Sebastião Serrão and his crew, who had hoisted a white flag in surrender, as well as their many passengers, although by the time of the

73 In 1595 and again in 1596–1597, van Heemskerck had travelled to the Arctic Sea on the second and third voyage of Willem Barentsz. and spent one winter on Nova Zembla before he began travelling to the East Indies in 1598 in the service of one of the earlier Dutch East India companies or *voorcompagnieën* 'anterior companies', which later merged to form the United Dutch East India Company. He died on the 25th of April 1607 at the Battle of Gibraltar, where the Dutch fleet annihilated the Spanish fleet and compelled the Habsburgs, who ruled the Iberian peninsula and the southern Netherlands, to acquiesce to the *Twaalfjarig Bestand* or Twelve Years' Truce (1609–1621).

FIGURE 2.14
Hugo de Groot at the age of 25, by Michiel Jansz. van Mierevelt in 1608, oil on canvas, 62×50 cm, 't Schielandshuis, Rotterdam

surrender seventy Portuguese seamen had already perished in the Dutch assault. The booty disgorged from the Portuguese carrack was auctioned in Holland, raising the colossal sum of 3½ million guilders. Some Dutchmen had qualms of conscience about the spoils from the sale of the loot,[74] but the Dutch jurist Hugo de Groot from the town of Delft, alias Hugo Grotius (1583–1645), wrote a dissertation entitled *Mare Libervm* about the freedom of the seas in 1609, in which he not only justified this highly lucrative Dutch act of piracy against the Portuguese, but in the same document he also laid down in international law the right of all nations to use the international sea lanes for trade unimpeded.[75]

As documented in the correspondence between the Dutch East India Company headquarters in Batavia and the Dutch governor at Fort Zeelandia on Formosa, from 1634 the Chinese porcelain makers began manufacturing bowls and other vessels fashioned after Dutch wooden models and adorned with scenery, figures and patterns that had been furnished by the Dutch traders beginning

74 Dirk van der Cruysse. 2002. *Siam and the West 1500–1700*. Chi:ang Mài: Silkworm Books (p. 39).

75 Hugo de Groot. 1609. *Mare Libervm ſive de Jvre quod Batavis competit ad Indicana commercia Dissertatio* [*Impreſſa primùm*]. Lugduni Batavorum [Leiden]: in officinâ Ludovici Elzeverij.

FIGURE 2.15
A *kraak* porcelain plate
PHOTOGRAPHED BY JAMES HILLARD

from 1632. On the 12th of April 1638, the instruction to supply *craek* or *caraek porceleyn* bowls and dishes comprised the larger part of an order dispatched from *De Heeren XVII* 'the Lords Seventeen' at the Dutch East India Company headquarters in Amsterdam to the governor general in Batavia, Anthonie van Diemen (*obtinebat* 1636–1645).[76] The spelling *craecqporceleijn* occurs in the order sent from Batavia on the 2nd of May 1639 to the governor of Formosa at Fort Zeelandia, Johan van der Burg (*obtinebat* 1636–1640), requesting him to ensure a steady supply of porcelain and silk for the Dutch East India Company trade in these commodities.

> … UE blijven andermael gerecommandeert bij alle mogelijcke debvoiren te bevoorderen onse principale nae eijsch mogen gedient worden, vooral in de fijne ende rare sorteringh porceleijn ende stuckwaren, opdat eens den rechten smaeck van Chinas vruchten erlangen ende dat mede die reputatie mogen becomen van craecq-porceleijn ende exquise stoffen uijt China te connen brengen.[77]

> … Your Graces are once again requested to satisfy to the best of your abilities our main additional order, particularly in procuring the fine and rare types of porcelain and vessels so that a proper taste for the fruits of China can be acquired and that the reputation may also be gained of being able to supply *kraak* porcelain and exquisite fabrics from China.

76 H.E. van Gelder. 1924. 'Gegevens omtrent den porceleinhandel der Oost-Indische Compagnie', *Economisch Historisch Jaarboek*, x: 165–193.

77 Cynthia Viallé. 1992. 'De bescheiden van de VOC betreffende de handel in Chinees en Japans porselein tussen 1634 en 1661', *Aziatische Kunst, Mededelingenblad van de Vereniging van Vrienden der Aziatische Kunst*, 22 (3): 7–34.

FIGURE 2.16
A modern hand-painted reproduction of a period *kraak* piece, sporting the insignia of the Dutch East India company, by Fukagawa 深川 porcelain in Arita 有田

From the beginning of the 17th century to 1647, the market in Holland for Chinese flatware and bowls was far better than for vases, jars and bottles, which were imported in smaller quantities mainly between 1635 and 1641. Shipments of Chinese porcelain ceased during 1647 in the turbulent period after the downfall of the Míng dynasty. After an initial shipment in 1654, the first sizeable shipments of Japanese porcelain from Arita commenced from 1658, and the trade in Chinese porcelain later resumed after a lapse of about two decades.[78] In 1673, the terms *kraeckwerck* 'kraak porcelain vessels' and *craeckcommen* 'kraak porcelain bowls' and of course *teepottjes* 'teapots' feature in the household inventory of the countess Amalia van Solms Braunfels, princess of Orange and wife of the *stadthouder* Frederik Hendrik van Oranje Nassau.[79]

The Dutch attempts to imitate Chinese porcelain with the blue and white faïence manufactured in Delft became an inspiration to the Leiden University student Ehrenfried Walther von Tschirnhaus (1651–1708). When von Tschirnhaus returned to his native Saxony, he independently developed porcelain manufacture at Dresden between 1705 and 1707. After his death, Johann Friedrich Böttger (1682–1719) used this technique to produce the famous Meissen porcelain in Dresden from 1710.[80]

Some have claimed that the detailed epistles on porcelain manufacture on the basis of kaolin

78 Viallé (1992).
79 Sophie Wilhelmina Albertine Drossaers en Theodoor Herman Lunsingh Scheurleer. 1974, 1974, 1976. *Inventarissen van de inboedels in de verblijven van de Oranjes en daarmede gelijk te stellen stukken, 1567–1795* (three volumes). 's Gravenhage: Martinus Nijhoff (Vol. 1, pp. 308, 309, 310).
80 Klaus Biener. 2005. 'Ein Mathematiker erfand das europäische Porzellan', *CMS-Journal*, Nr. 26 (15. März 2005): 73–74.

FIGURE 2.17
An antique Delft blue plate
COURTESY OF FRANS VAN NIE, VAN NIE ANTIQUAIRS, AMSTERDAM

and petuntse by the French Jesuit François-Xavier d'Entrecolles were the information source for von Tschirnhaus and Böttger. The problem is a chronological one, however. François-Xavier d'Entrecolles was born in Limoges in 1664, went to China at the age of thirty-four in 1698 and died at Peking in 1741 at the age of seventy-seven. He wrote two detailed epistles on the 1st of September 1712 and the 25th of January 1722,[81] the contents of which with regard to the manufacture of porcelain were distilled and first published in 1735 in the second volume of a four-volume description of China by the French Jesuit Jean-Baptiste du Halde.[82] This information therefore became available a few decades after porcelain manufacture had already been developed at Dresden.

Recently, evidence has been adduced suggesting that the technology of porcelain manufacture may have been deduced in England even earlier, although this issue is presently a topic of scholarly dispute, since the chemical composition of the so-called Buckingham pots differs from the Chinese recipe.[83] Although the Dutch trade in *kraak* had made fine blue and white porcelain available in England from the early 17th century, an influential proponent of Chinese porcelain and fine ceram-

81 William Burton. 1906. *Porcelain: Its Nature, Art and Manufacture*. London: B.T. Batsford Ltd. (pp. 84, 110 *et passim*).

82 Jean-Baptiste du Halde. 1735. *Description géographique historique, chronologique, politique et physique de l'empire de la Chine et de la Tartarie chinoise*. Paris: Chez P.G. le Mercier (Tome II, pp. 177–204).

83 Morgan Wesley. 2008. 'The earliest English porcelains Part 1, The Burghley House Buckingham porcelains as documentary objects', *Transactions of the English Ceramic Circle*, 20 (1): 169–182; J.V.G. Mallet. 2008. 'The earliest English porcelains Part 6, the place of Buckingham porcelain in ceramic history', *Transactions of the English Ceramic Circle*, 20 (1): 211–230.

FIGURE 2.18
Ehrenfried Walther von Tschirnhaus (1651–1708), copperplate engraving by Martin Friedrich Berngeroth, Kupferstichkabinett Dresden

ics in the British Isles was queen Mary II,[84] who brought back a huge collection of both Chinese porcelain and fine Delftware with her to England from the Netherlands in 1689.[85]

The word *porcelain* was first applied to porcelain by Marco Polo in his travel memoir, when he called vessels made of this lustrous ceramic which he observed in 'Zayton' or 'Tyunju', i.e. Chin-

84 Political ranks, such as 'earl', 'duke', 'king', 'queen', 'governor general' are not treated as part of the proper name of a person and are therefore not capitalised in the *Tale of Tea*. In popular English prose, an inconsistency can be observed whereby the designation is capitalised in, for instance, Queen Elizabeth and President Kennedy, whereas the ranks of non-Anglo-American emperors, potentates and officials are quite often left uncapitalised. We shall therefore speak of the 1st and 2nd earl Grey, for example, whilst the proper name of the tea, Earl Grey, is capitalised.

85 Markman Ellis, Richard Coulton and Matthew Mauger. 2015. *Empire of Tea: The Asian Leaf that Conquered the World*. London: Reaktion Books (p. 152).

chew (*Quánzhōu* 泉州), by the name *porcellana*,[86] which is the Italian name for a cowry shell then used as currency in Asia, especially in parts of the Indian subcontinent. A recollection of the past use of these shells as currency is even preserved in the Himalayan mid hills in the Nepali expression *Masãga ta euṭā phūṭeko kauḍī pani chaina* मसँग त एउटा फूटेको कौडी पनि छैन 'I don't even have a broken cowrie to spend' in the sense of 'I haven't got a brass farthing'.[87] The cowry shell has a hard lustrous glaze similar to that of porcelain. The word *porcellana* is a diminutive of the word for pig, which is the association which the shape of a cowry shell evoked to the mind of early Italian travellers in India.

Tibet Takes to Tea in the Táng

Tea was exported beyond China's borders to Tibet, Turkestan and Mongolia and other regions. Initially, the use of tea was perceived as medicinal. The tea leaves were steamed and then compressed into bricks and then transported along a network of roads, which the Yúnnán University professors Mù Jìhóng 木霽弘 and Chén Bǎoyà 陳保亞 collectively christened the Old Tea Horse Road (*chámǎ gǔdào* 茶馬古道), running from Yúnnán through Sìchuān to Tibet and beyond.[88]

This 'border road tea' (*lùbiānchá* 路邊茶) met lower standards of quality than the tea that was to be consumed in China, and transportation was difficult. Tea merchants had to traverse sinuous paths along treacherous terrain and precipitous cliffs. No tea trees, and in fact very few trees at all, grow high on the Tibetan plateau. Obviously, Tibetan borrowed the word for tea from those who supplied them with the commodity. Written Tibetan

86 Burgerbibliothek Bern, Sammlung Bongarsiana Codices, Codex 125: Marco Polo, Jean de Mandeville, Pordenone, Pergament I + 287 Bl., 32.5×23.5 cm, 1401–1450: (f. 73v) «… si a vne autre cité qui a anom tuangiu, la ou fe font mouft de efcuelles de pourcelaine qui font moult bellez, et nulle autre part ne fe font, fors que en cefte cité »; Luigi Foscolo Benedetto. 1928. *Marco Polo: Il Milione. Prima edizione integrale* (Comitato Geografico Nazionale Italiano, pubblicazione n. 3). Firenze: Leo S. Olschki (references to porcelain vessels at 'Tiungiu' (*Quánzhōu* 泉州): p. 160, Cap. CLVIII « en une cité que est apellé Tiungiu, se font esquelle de porcellaine, grant et pitet, les plus belles que l'en peust deviser »; references to porcelain shells or cowries: p. 115, Cap. CXIX « Car il espendent porcelaine blance—celle que se trovent en la mer et que se metent au cuel des chiens—et vaillent les LXXX porcelaines un saje d'argent, que sunt deus venesians gros », p. 116, Cap. CXX « Et encore en ceste provence se spendent les porcelaine que je vos contai desovre por monoi », p. 119, Cap. CXXI « et encore hi se espenent les porcelaines », p. 127, Cap. CXXX « La monoie qu'il espendent a menue est de porcelaine », p. 169, Cap. CLXV « toutes les porcelaine que s'espenent en toutes provences »); Henry Yule and Henri Cordier. 1903. *The Book of Ser Marco Polo, the Venetian concerning the Kingdoms and Marvels of the East, translated and edited with Notes by Colonel Sir Henry Yule, R.E., C.B., K.C.S.I., Corr. Inst. France (Third Edition, Revised throughout in the Light of Recent Discoveries by Henri Cordier of Paris), in Two Volumes*. London: John Murray (references to porcelain vessels at 'Tyunju' (*Quánzhōu* 泉州): Vol. II, pp. 235–236; references to porcelain shells or cowries: Vol. II, pp. 66, 76, 123, 276; Book II, Ch. XLVIII, XLIX, LVII, Book III, Ch. VII); Elise Guignard. 1983. *Marco Polo: Il Milione. Die Wunder der Welt. Übersetzung aus altfranzösischen und lateinischen Quellen und Nachwort von Elise Guignard*. Zürich: Manesse Verlag (p. 270, Kap. CLVIII; p. 190, Kap. CXIX, p. 192, Kap. CLVII, p. 197, Kap. CXXI, p. 211, Kap. CXXX, p. 291, Kap. CLXV).

87 In contrast to this fossilised expression, few young Nepalis today will have heard the use of the Nepali word *kampanī* कम्पनी in its original meaning of Indian rupee, standing for the East India Company rupee. In the 1980s, sexagenarians and septuagenarians in eastern Nepali villages still reserved the term *rupaiyā̃* रुपैयाँ, for the Nepali rupee and referred to the Indian rupee as *kampanī*. Nowadays the English abbreviations N.C. and I.C. are heard for Nepali and Indian currency. Older Nepalis will also still remember the use of *cārānā* चाराना 'four annas', *āṭhānā* आठाना 'eight annas' and *bāhrānā* बाह्राना 'twelve annas' for 25 pice, 50 pice and 75 pice respectively.

88 More recently, a couple of popular books have dealt with the tea horse road between China and Tibet, e.g. Jeff Fuchs. 2008. *The Ancient Tea Horse Road: Travels with the Last of the Himalayan Muleteers*. Toronto: Viking Canada; Michael Freeman and Selena Ahmed. 2011. *Tea Horse Road: China's Ancient Road to Tibet*. Bangkok: River Books.

FIGURE 2.19
Blue and white Chinese porcelain from Jǐngdézhèn 景德鎮, fired during the reign of the Yǒnglè 永樂 emperor (1403–1424)
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

has the form *ja* ཇ་, which is pronounced as [tɕʰɑ̱] in the low register tone in the central dialect of Lhasa ལྷ་ས་ [ɬāsā] and further east as [tɕɑ̱], for example in ḥBaḥ-thaṅ འབའ་ཐང་ [bātã̄] in dKar-mdzes དཀར་མཛེས་ [kã̄ʦē].

From the Táng dynasty, the border trade in tea to Tibet was promoted to satisfy the Chinese demand for horses after emperor Tàizōng 太宗 (*imperabat* 626–649) had stretched the empire's boundaries to their strategic limits. The Táng government needed cavalry to protect the frontiers against bellicose nomadic tribesmen, pacify the western borders, consolidate territorial gains and unify the nation. At the same time, the tea was needed in Tibet to supplement the frugal diet on the Tibetan plateau.

To appease the martial Tibetans, king Sroṅ-btsan sGam-po སྲོང་བཙན་སྒམ་པོ་ [sɔ̃̄ʦɛ̃̄ kāmpɔ̄] (*regnabat* 605–650) was given the Chinese princess Wénchéng 文成 as a spouse in 641. A probably spurious legend recorded in the *New Táng Annals* (*Xīn táng shū* 新唐書), which was compiled later during the Sòng dynasty, credits her with introducing tea to the Tibetan court. A supply of tea cakes purportedly came as part of her dowry. Tibetan sources, however, attribute the introduction of tea to Tibet to Sroṅ-btsan sGam-po's grandson.[89] The tradition recorded in these historical sources may reflect the introduction of tea to Tibet as a bever-

89 Sir Charles Alfred Bell. 1924. *Tibet: Past and Present.* Oxford: The Clarendon Press (p. 25).

FIGURE 2.20
In Sikkim, Bhutan, Tibet and in those parts of Central and East Asia influenced by Tibetan culture, salted butter tea is prepared by churning, just as the mother of Künzang Namgyal Lachungpa ཀུན་བཟང་རྣམ་རྒྱལ་ལ་ཆུང་པ་ is shown doing here in Lachung ལ་ཆུང་ in northern Sikkim, where the coarse black tea consisting of large dried broken tea leaves and stems used to prepare churned salty butter tea is known in Dränjongke as *gyaj'a* རྒྱ་ཇ་ 'Chinese tea'.

age, for tea must have been known in Tibet as a medicinal plant or perhaps as a comestible even earlier, as attested by the cemetary find dating from the 2nd century AD from sGar སྒར་ [kɑ̱r] in mÑaḥ-ris མངའ་རིས་ [ŋɑ̄rī] in western Tibet, where tea was found mixed with barley and other plants.[90]

Tea brought many nutritional benefits to enrich the monotonous diet on the Tibetan plateau. The Tibetans take their dark tea with salt and butter. They often add pine nuts and a mixture of roasted barley and wheat flour known as *rtsampa* རྩམ་པ་ [tsāmpā] into their tea to make a tasty stodge called *spags* སྤགས་ [pâ]. Whilst the latter is more akin to a porridge, the Tibetans also use the term *ja-ldur* ཇ་ལྡུར་ [tɕʰɑ̱mtūr] to denote a tea-based type of *skyo-ma* སྐྱོ་མ་ [tɕōmā] or gruel, that tends to be a bit thinner in consistency. Both may inadvertently contain tea leaves from the brewed tea. This must be kept in mind when evaluating the archaeological find at sGar སྒར་ [kɑ̱r] and the question as to whether in ancient times *tsampa* could have been mixed with imported *miəm* မျံမ် or *mîːang* เมี่ยง [mîːaŋ] 'pickled tea' from the tea homeland. The produce of Táng government plantations in Sìchuān was used to satisfy the demand of the tea trade with Tibet. Horse tea trails used to radiate through northern and eastern China into Tibet.

90 Lu et al. (2016).

One major trade artery to Tibet ran from Yǎzhōu 雅州, which since 1729 has been called Yǎ'ān 雅安, near modern Chéngdū. Another more southerly route ran from Pǔ'ěr 普洱 via Kūnmíng to Tibet. It is an historical irony that tea has in recent times come to be cultivated within the historical borders of the eastern Tibetan province of Khams ཁམས་ [kʰām], where loose leaf and brick tea are now produced at lCags-zam ལྕགས་ཟམ་ [tɕâsām] (*Lúdìng* 瀘定), brGyad-zur བརྒྱད་ཟུར་ [kʲɛ̱sūr] (*Jiǔlóng* 九龍) and Ñag-chu-kha ཉག་ཆུ་ཁ་ [ɲɑ̱tɕūkā] (*Yǎjiāng* 雅江) inside what today—after the redrawing of the borders between Tibet and the Chinese provinces in 1950—is Sìchuān, and in rDza-yul རྫ་ཡུལ་ [tsɑ̱ jȳ] (*Cháyú* 察隅) and Me-tog མེ་ཏོག་ [me̱tɔ̄ˀ] (*Mòtuō* 墨脫).[91]

During the late Táng and Sóng dynasty periods, Tibet traded horses in order to secure tea from China. The tea could remain *en route* for up to four months, and yaks and mules were used as draught animals on portions of this network. Many of the trails were only traversable in certain seasons. The trade routes passed through the territories of many ethnic groups and diverse language communities. Some of these trails were of far greater antiquity than the Chinese trade in tea and horses, but during the Táng these trade arteries acquired a new significance. These ancient trails were used even up to the Second World War, when they served as conduits for goods into China from India.

The Táng government maintained horse herds of over 760,000 head, pastured in Shǎnxī and Níngxià and in the Gānsù corridor, an area which it lost to a unified Tibet in the middle of the 8th century. China under the Táng dynasty was at its apogee during the reign of emperor Xuánzōng 玄宗 (*imperabat* 712–756), but the Chinese imperial army was routed by the Arabs in 751 at the Battle of Artlakh in the Jaxartes basin. Afterwards the Chinese were attacked by the Tibetans from the west, the Turks and the Koreans from the north and the Nánzhào kingdom from the southwest.

China continued regularly to bear the brunt of Tibetan attacks until the 9th century, and the Chinese government was compelled to pay an annual tribute to Lhasa to appease the bellicose Tibetans. When the Táng government once had the temerity to withhold tribute to the Tibetan court, the Tibetan army captured the Chinese capital at Cháng'ān in 763, and for a spell they even installed the Chinese brother-in-law of king Khri-sroṅ lDe-btsan ཁྲི་སྲོང་ལྡེ་བཙན་ [ʈʂʰīsɔ̃̄ te̱tsɛ̃̄] (*regnabat* 755–797) as the emperor of China.

Tea was to exert an enduring influence on monetary history. First of all, bricks of compressed tea, known as *ja-sbag* ཇ་སྦག་ [tɕʰɑ̱pāˀ] in Tibetan, used to be used as money in their own right. Tea bricks, traditionally packed in paper or bamboo leaves, were designed for ease of transportation by caravan. Not only did bricks of tea serve as units of currency, the earliest paper money too originated with the tea trade.[92] Since there was no convenient currency for the large sums involved in

91 Patrick Booz. 2006. *Tea for Tibet: Tea, Trade and Transport in the Sino-Tibetan Borderlands.* Oxford University: M.Phil. thesis (p. 42). With respect to the loss of aspiration in non-initial syllables and the rules governing tonal assimilation and dissimilation in polysyllabic words in central Tibetan dialects, cf. Felix Anton Haller. 2000. *Dialekt und Erzählungen von Shigatse* (Beiträge zur tibetischen Erzählforschung, 13). Sankt Augustin: Vereinigung für Geschichtswissenschaft Hochasiens Wissenschaftsverlag (pp. 36, 39); Felix Anton Haller und Chungda Haller. 2007. *Einführung in das moderne Zentraltibetische auf Basis des Dialektes von Shigatse, westliches Zentraltibet* (*Tsang*). Bern: unveröffentlichtes Manuskript (pp. 28–31).

92 The fiction of money as such is not a Chinese invention, however. Collective fictions such as gods, games, stories and myth, nation states such as the United Provinces or the Union of Soviet Socialist Republics, corporations such as the Dutch East India Company or Rolex and other game realities which sustain the fabric of our societies are essentially semiotic constructs. The dynamics and dimensions of make-believe and cooperation in our ancestors changed fundamentally and forever with the emergence of language. The behaviour of human language stems directly from the nature of the linguistic sign, the propensities of meanings as non-constructible sets and the way in which we humans have evolved to use them (George van Driem. 2001. *Languages of the Himalayas: An Ethnolinguistic Handbook of the Greater Himalayan Region, contain-*

this flourishing trade during the 8th century, flying money (*fēiqián* 飛錢) was developed to facilitate the trade between the tea industry in southeastern China and the capital Cháng'ān. These bills of 'convenient exchange' (*biànhuàn* 便換) served as promissory notes between tea merchants and effectively developed into a paper currency,[93] a phenomenon which half a millennium later Marco Polo would be the first Westerner to observe.[94]

The trade of tea for horses assumed great importance during the Táng, and this trade would only become more important in the ensuing Sòng period. Alongside the taxes on salt and steel, the tax on tea would come to generate the greatest revenue for the Chinese government. Although the Chinese had employed cavalry since the Hàn dynasty, they never became very skilled horsemen. Likewise, the Chinese never became as adept at horse breeding as the steppe nomads who relied on the horse for their daily subsistence. Moreover, to procure horses for their cavalry, China relied on potentially hostile foreign suppliers such as the Tibetans and the Uighur Turks. The Uighur khaganate (744–840), which was referred to by the Táng as *Huíhé* 回紇, also traded horses for tea.

However, unlike the Uighur and the Tibetans, the Tangut and the Khitan would not sell horses to the Chinese. The Chinese fought against the Tangut or Mi-ñag མི་ཉག་ [mi̱ ɲāˀ] empire, located in what today has become northern China. The realm of this Tibeto-Burman people covered a vast area that today comprises Níngxià, Gānsù, eastern Qīnghǎi, northern Shǎnxī, northeastern Xīnjiāng and southwestern Mongolia. The Tangut city of Lánzhōu 蘭州 was taken by the Chinese during the Táng in 843, but later fell back into the hands of the Tangut.

Tea Is Taxed by the Táng

The suddenly thriving trade in tea inspired Zhào Zàn 趙贊, a powerful official in the spendthrift Táng government of emperor Dézōng 德宗 (*imperabat* 779–805), to impose a 10% tax on the production of tea in 782. The Táng government soon found, however, that it was not able to apply the tax effectively because local potentates in Sìchuān would exact the tax but then withhold the revenue from the court or merely pay a quota.[95] The Dézōng emperor was quite fond of introducing new taxes, which were his gambit to strengthen his control over the regional warlords.

Instead of taxing just farmland, his new taxes on houses and business transactions, however, led to rebellion and merely strengthened the power of the eunuchs at the imperial court. The taxes were suspended in 783 when the soldiers in the capital at Cháng'ān mutinied after being subjected to a vegetarian diet and attacked the palace, forcing the emperor Dézōng to flee to Fèngtiān 奉天 in what today is Xiányáng 咸陽 in Shǎnxī 陝西 province. The rebellion was ultimately quelled, but only at great cost.

Ten years later, in 793, a new 10% tax on tea was introduced under emperor Dézōng, but this new government excise was levied on the tea trade rather than on the manufacture of tea. In Fukien, Ānhuī, Zhèjiāng, Sìchuān and the whilom province of Shānnán 山南, the administration of this tax quickly led to abuses by local governors who extracted exorbitant storage and transit fees for the compulsory use of especially established transit warehouses.

ing an Introduction to the Symbiotic Theory of Language (two volumes). Leiden: Brill, pp. 39–97).

93 Julius von Klaproth. 1822. *Sur l'origine du papier-monnaie* (*Mémoire lu à la Séance de la Société Asiatique du 1er. Octobre 1822*). Paris: Imprimerie de Dondey-Dupré; Stefan Balázs. 1931, 1932, 1933. 'Beiträge zur Wirtschaftsgeschichte der T'ang-Zeit', *Mitteilungen des Seminars für Orientalische Sprachen an der Friedrich-Wilhelms-Universität zu Berlin*, XXXIV: 1–92; XXXV: 1–73; XXXVI: 1–62.

94 Benedetto (1928: 136, Cap. CXLIII); Yule and Cordier (1903, II: 152; Book II, Ch. LXVII); Guignard (1983: 232, Kap. CXLIII).

95 Denis Crispin Twitchett. 1970. *Financial Administration under the T'ang Dynasty* (second edition). Cambridge: Cambridge University Press (p. 62); Smith (1991: 86–87).

After emperor Mùzōng 穆宗 (*imperabat* 820–824) acceded to the throne, the tax on tea was raised to 15 % in 821, and tea merchants retaliated by increasing the size of a standard catty (*jīn* 斤) of tea on which the tax was levied by 25 %. A vicious circle was set in motion when the tax on a catty of tea was increased in 835 and then again in 840 at the time of the accession of Wǔzōng 武宗 (*imperabat* 840–846). By 865, the size of a standard catty in the tea trade in the Huái 淮 and Yangtze river region had increased by over 300 %, leading to the restoration of the original standard measures and a supplementary tax on tea.

Many tea gardens became property of the imperial household who produced tea primarily for the emperor and his courtiers, but private tea gardens continued to flourish alongside. However, the Táng government suddenly undertook to nationalise the production of tea. In 835, the covetous chancellor Wáng Yá 王涯 and government official Zhèng Zhù 鄭注 under emperor Wénzōng 文宗 (*imperabat* 827–840) set up a Tea Monopoly Commission (*quècháshǐ* 榷茶使) and ordered that all tea shrubs in privately owned tea gardens be transplanted to government plantations and all private stocks of prepared tea be destroyed.

In the ensuing unrest, both Wáng Yá and Zhèng Zhù fell from power and perished in the bloody intrigues of the Sweet Dew incident, in which the eunuchs reasserted their power. The tea poet Lú Tóng 盧仝, famous for his poem 'Seven bowls of tea', was also killed, for he was found with his friend Wáng Yá in the tea shop at Yǒngchāng 永昌 in which the fleeing chancellor had sought to take refuge. The nationalisation measures were repealed within two months of their having been instituted.

The unrest continued, however, and tea production was disrupted. The Táng government attempted to restore the old tax system in 836, but it took until 840 for control of taxation to be restored. In 839, the chancellor Cuī Dān 崔鄲 (*obtinebat* 839–840) even suggested that the system of taxing tea be scrapped altogether. Since this proposal was not followed up, from 840 tea growers often began to deliver their produce directly to the tea merchants, thus bypassing the brokers through whom the tax was excised. This practice became more widespread each time that the tax rate on tea was raised. In 848 and again in 852, the system of taxation on tea was reformed, but free trade in tea continued to flourish illicitly. Meanwhile, the rapacious tax system continued to be abused by provincial authorities through their unauthorised imposition of further local duties and fees.[96]

The Sòng under Siege

The Táng dynasty ended in 907, and after 55 years of turmoil the Sòng dynasty was established in 960 by Zhào Kuāngyìn 趙匡胤, who became emperor Tàizǔ 太祖, the first emperor of Sòng 宋. The Sòng was a period of great cultural refinement, yet Sòng dynasty China remained relentlessly under siege. Whilst the Tangut (*Xīxià* 西夏) and the Khitan (*Liáo* 遼) dominated the northern frontier along the Great Wall, the Jürchen would drive the Sòng south, and ultimately the Mongols would eradicate the Sòng dynasty. The first half of the Sòng period is known as the Northern Sòng, which endured until 1127, when the Chinese were driven south from their northern capital at Biànliáng 汴梁 on the southern bank of the Yellow River, a city known today as Kāifēng 開封, by Tungusic invaders known as the Jürchen (*Jīn* 金).

In 965, China under the Sòng incorporated the tea-producing kingdom of Shǔ 蜀. After 973, the government tax on tea was gradually reduced. However, from 980 to 1059, the Sòng government fiscally confined the sale of Sìchuān tea either to within Sìchuān or just for sale to the Tibetan border tribes and to the *Mán* 蠻 and *Yí* 彝 tribes in the south and southwest. In southeastern China, the Sòng established a government tea monopoly, as the government undertook to sell tea from the southeast to the lucrative markets on the northwestern frontier. Meanwhile, Sìchuān tea

96 Twitchett (1970: 62–65, 285–289).

FIGURE 2.21
Lóngquán 龍泉 ware vase with phoenix handles in celadon or *Qīngcí* 青瓷, a ceramic glaze innovated during the Sòng dynasty, Southern Sòng, 13th century
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

producers stuck primarily to tea cakes, even when southeastern tea producers had begun to switch largely to loose leaf tea. In the 1070s, Tibet became Sìchuān's principal customer, and the tea from Míngshān 名山 was a favourite amongst Tibetan merchants.

Long after the Sòng period, the enduring practicality of tea cakes for transportation ensured that Sìchuān tea exports to Tibet would remain mainly in the form of tea cakes well into the Qīng period, when Sìchuān sold 12 million catties of tea to Tibet annually. During the Míng dynasty, a horse would cost anywhere from 50 catties for a draught horse to 120 catties for a prize stallion, with an average horse costing around 70 catties. Since a catty (*jīn* 斤) is roughly 600 grammes, horses during the Míng ran for from between 30 and 72 kg of tea each. Tea bricks continued effectively to function as units of currency alongside coinage in Tibet well into the beginning of the 20th century.[97]

97 Wolfgang Bertsch. 2009. 'The use of tea bricks as currency among the Tibetans', *The Tibet Journal*, XXXIV (2): 35–80 [ursprünglich erschienen als Wolfgang Bertsch. 2006. 'Der Gebrauch von Teeziegeln als Zahlungsmittel bei den Tibetern', *Der Primitivgeldsammler, Mitteilungsblatt der Europäischen Vereinigung zum Sammeln, Bewahren und Erforschen von ursprünglichen und außergewöhnlichen Geldformen* (Rüsselsheim), 27 (1): 19–51].

During the Sòng, China was surrounded by the Tangut, Jürchen, Khitan, Uighur and Mongols, and the Sòng maintained a standing army of over 1¼ million troops along frontiers protected by fortifications and a famous systems of walls. The Sòng boasted weaponry of iron and steel and incendiary projectiles using gunpowder. Yet in the 11th century, the Chinese lost all the major battles that they waged against the Tangut. Chinese technological superiority proved of limited utility in the face of highly mobile cavalrymen, who on the open steppe could wipe out an infantry ten times as numerous as themselves. Mobile mounted warfare conducted by a cavalry of steppe nomads proved to confer upon China's enemies a decisive military advantage against a vulnerable sedentary agrarian population protected by an infantry.

In 1003, the Tangut took Língzhōu 靈州. Then they shut down much of the horse trade when they occupied the area around Liángzhōu 涼州 in 1011 and even more of the Gānsù corridor in 1028. The more that the Tangut expanded into Gānsù, the more the Sòng government had to rely upon the Tibetans of the Blue Lake area for horses. Tibet encompassed the area around the Blue Lake or mTsho sÑon-po མཚོ་སྔོན་པོ་ [tsʰɔ̄ ŋœ̃pɔ̄], whence derives the Oirat Mongol name *Köke Nur* 'blue lake'. This inland sea generally appears in older Occidental atlases as 'Koko Nor'. The Chinese name *Qīnghǎi* 青海 'blue sea' is likewise modelled after the Tibetan.

The Sòng court was acutely aware, therefore, that an alliance between the Tangut and the Tibetans could be detrimental to Chinese security. The shortage of horses was acutely felt during the war with the Tangut between 1040 and 1044, when need most greatly outstripped supply. Although the Sòng managed to take the city of Lánzhōu 蘭州 from the Tangut in 1041, at the conclusion of the war in 1044 the Sòng concluded a peace with the Tangut which obliged the Chinese to pay them an annual tribute of 30,000 pounds of tea. The government needed horses from these steppe peoples, but at the same time the Chinese were vulnerable to attack from these same peoples.

Emperor Zhēnzōng 真宗 (*imperabat* 997–1022) laid the groundwork for government intervention and control of the tea trade. Government authorities set up trading posts and relay stations, where wares could be checked and taxed. The control on the tea trade became severe. During the Northern Sòng, even the famous and highly prized tea from Mount Méng, usually reserved for tribute tea, was at one point only allowed to be used in the border trade in exchange for horses that were direly needed by the court to protect the northern frontiers of the empire. In general, however, the worst and most bitter tea containing stems and twigs would be exported to the steppe peoples. In one respect, this was logical, for the steppe peoples mixed their tea with butter and salt, which would destroy anything but the most robust aroma and the most flavourful astringency.

At the height of the trade during the Northern Sòng, 60 kg of tea would on average buy one horse. Tea was packaged and carried from the city of Yǎzhōu 雅州 in Sìchuān to Lhasa. The Chinese got their horses from the Tibetans because the Jürchen were not ready to sell horses to, and thus to arm, their Chinese rivals. Since the Sòng government needed hundreds of thousands of horses, there was simply not enough tea. The horse and tea trade was also unequal because tea cakes survived the journey well, whereas many horses died *en route* or arrived in a state hardly fit for battle.

At the time, the portion of Tibet surrounding Blue Lake was a kingdom in its own right, and after the many Tangut victories the Tibetans of the Blue Lake kingdom in the mid 11th century sided with the Tanguts. This cut off much of the Sòng supply of horses, and in response to this perilous situation chancellor Wáng Ānshí 王安石 devised a sweeping programme of socio-economic and military reforms called the New Policies (*xīnfǎ* 新法) in 1069.

Initially, this led to the suspension of the eighty-year southeastern tea monopoly, a measure which was followed by 15 years of free trade in tea. However, the New Policies that were

FIGURE 2.22 The emperor Zhēnzōng 真宗 (*imperabat* 997–1022) laid the groundwork for government intervention and control of the tea trade during the Sòng dynasty, collection of the National Palace Museum, Taipei

FIGURE 2.23 An octagonal bevelled Guān 官 ware vase in celadon or *Qīngcí* 青瓷, Southern Sòng
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

systematically applied throughout the reign of emperor Shénzōng 神宗 (*imperabat* 1068–1085) included fiscal measures that bridled private commerce in order to fuel the Sòng dynasty's aggressive territorial expansion and ever more to finance the increasingly embattled Sòng imperial defences.

By the middle of the 11th century, the Sòng government required 22,000 head annually to compensate for the depletion of the herds. Only a portion of the Chinese herd comprised battle-worthy mounts. The government grasslands in the north were encroached upon, and chancellor Wáng Ānshí realised that the Sòng government's own horse breeding programme was unprofitable. By 1065, the horse and tea trade accounted for 43% of the government's tax revenue. Yet, the government herd, which still counted 200,000 horses in 1008, had been reduced to 153,000 head by 1069.[98]

Whereas the Hàn and Táng and later the Míng governments were and would be able to obtain horses from a disunited steppe, the Sòng government was compelled to buy horses from the pastoralists on a hostile steppe dominated by united empires. The result was an exorbitant trade in tea for horses, whereby the steppe nomads often got the worst tea, and the Chinese often got the least battle-worthy horses.[99] The geopolitical situation was as much to blame for the reduced quality of

98 Smith (1991: 1).
99 Smith (1991).

FIGURE 2.24
Lóngquán 龍泉 ware celadon bowl with lotus leaf motif, Southern Sòng dynasty, 17.4cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

Sìchuān tea as was the Sòng government's policy of taxation in order to fuel a perpetual wartime economy.

The government then turned to the tried and tested tactic of taxing tea once again, and in 1070 the first tea taxation bureau was opened in Sìchuān. Then in 1074, the Tea and Horse Agency (*chámǎsī* 茶馬司) was established, creating a monopsony in Sìchuān, with the Sòng government as the sole legal buyer on the market. Consequently, the trade in Sìchuān tea came to be dominated by a government monopoly. In Paul Smith's words, within a decade of the establishment of the Tea and Horse Agency, Sìchuān's 'localised high-quality tea industry had been transformed into a bulk producer of low-quality tea for long-distance state-run markets'.[100]

This arrangement revived the Sìchuān tea trade but adversely affected the quality of the product. The proceeds were diverted to fund the government's horse trade with the Blue Lake Tibetans, from whom the Sóng acquired horses that were then kept at pasture mainly in Shǎnxī. As the Chinese government exploited the sudden prosperity in the Sìchuān trade, in practice clever bureaucrats replaced private merchants as the prime exporters of Sìchuān tea.

Upon the death of emperor Shénzōng in 1085, an array of officials opposed to the New Policies united under the leadership of the new regent, empress dowager Xuānrén 宣仁. However, in Sìchuān rapacious agents of the government system effectively retained a stranglehold on affairs for long enough that, by the time the old reformers resumed power in 1094, business as usual could quickly and smoothly resume. At this time, the laws against tea smuggling were perceived as an injustice because the government monopsony adversely affected tea cultivators, and the government stranglehold was exacerbated by the burden of confiscatory taxes and the impossibility for cultivators to withdraw from the industry as the market declined.

Therefore, the Tea and Horse Agency not only survived the subsequent reversal of reforms in 1086 and the loss of eastern Shǎnxī in 1103, but even the Jürchen (*Jīn* 金) conquest of northern China in 1127, when the city of Lánzhōu 蘭州 fell to this Tungusic people, and the Northern Sòng abandoned their capital at Biànliáng 汴梁 and fled south. After the northern capital had fallen to the Jürchen in 1127, the Sòng capital was moved in 1132 to Lín'ān 臨安 just near the lovely West Lake (*Xīhú* 西湖), within the present-day city of Hángzhōu 杭州.

The Tea and Horse Agency resumed operations in 1137, ensuring further decay of the industry through the parasitic bureaucracy of government tea brokers. The tea and horse trade flourished because it satisfied the Sòng need for mounts for their cavalry and, at a time of monetary crisis, enabled trade by barter with a durable and transportable commodity that was required by the other party.[101] Yet the efficacy of the Tea and Horse Agency continued to diminish as the government spoilt the free market.

100 Smith (1991: 76).

101 Booz (2006: 16).

FIGURE 2.25
Large Jūn 鈞 ware bowl with flaring mouth in an opalescent pale blue glaze called 'moon white' 月白釉 *yuèbái yòu*, Jīn 金 dynasty (1115–1234)
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

In the second half of the 12th century, gangs of tea bandits flourished as a result of of the local effects of the government's fiscal policies and the consequent depression of the tea industry. From the establishment of this monopoly in 1074 until the end of the records in 1204, a total of 30 million pounds of tea were regulated over this period, based on 'long licences' (*chángyǐn* 長引) for units of 100 catties of tea.[102]

In order to construct the Sòng tax state, former local barons and rural potentates of the Táng dynasty period were recruited as the new civil servants of the state. During the Táng, aristocratic lineages wielded the greatest power and social clout, and in this way local élites in Sìchuān managed to resist government control during the Táng. From 11th century onward, the local élites instead embraced government control because of the new regulated markets. So after the demise of the Táng, élite families instead sent their sons to become mandarins in the new Sòng bureaucracy.

The city of Lánzhōu 蘭州 was captured by the Mongols in 1235. Although the cavalry had become ever more important, Sòng horsepower had become ever more ineffective. By 1279, the Sòng had failed to develop and maintain a cavalry on par with their rivals, whilst their rivals had acquired many of the technological advances in weaponry that the Chinese initially had held over the steppe peoples. Kublai Khan's armies conquered the Sòng in 1279. The Chinese prime minister and the boy emperor committed suicide by drowning themselves in the Pearl River delta during the Battle of Yámén 崖門 on the 19th of March 1279. The Mongols took over and ruled China, establishing the Yuán 元 dynasty (1271–1368).

The Sophistication of the Sòng

The Sòng period was characterised by great aesthetic refinement. Exquisite glazed celadon ware (*Qīngcí* 青瓷) in various shades of green jade was perfected,[103] of which the lacklustre olive grey stoneware called Yuè 越 ware from Yuèzhōu 越州 near Shàoxīng 紹興 was but a drab precursor. The stunning lapis lazuli, azure, lavender and tur-

102 Smith (1991: 69).

103 The western name *celadon* is taken from the name of the amorous protagonist of the novel *L'Astrée* by Honoré d'Urfé (1567–1625), published in five parts in the years 1607, 1610, 1619, 1627 and 1628. The precise authorship of the posthumous parts of the novel continues to form a topic of scholarly controversy. The main character *Celadon* was a shepherd who wore a dull green robe, whence the chromatic association with the porcelain. The name *celadon* still served as a byword for amorousness when *Qīngcí* 青瓷 porcelain first acquired this name in the West. In later editions, the name of the shepherd appeared in the modern French orthography *Céladon* (Honoré d'Urfé. 1607. *L'Astrée de messire Honoré d'Urfé, Les Douze Livres d'Astrée où, Par plusieurs Histoires et sous personnes de Bergers et d'autres, sont déduits les divers effets de l'honneste amitié* [Ire partie]. Paris: Chez Toussaincts du Bray).

FIGURE 2.26
Azure Jūn 鈞 ware bowl with lavender splotches dating from the Jīn 金 dynasty (1115–1234), endowed to the Los Angeles County Museum of Art by Nasli Munchersa Heeramaneck

quoise glazes of Jūn 鈞 ware dazzle the cones of the retina. Chinese landscape painting and calligraphy attained new heights in the pursuit of naturalistic expression, and the Zen school (*chán* 禪) of Buddhism gained great popularity. The sublime beauty in the arts of this period was matched by enhanced technical sophistication in the processing, preparation and degustation of fine tea.

In the 11th and 12th centuries, the trend was away from compressed tea and towards loose leaf teas (*sànchá* 散茶) and powdered tea (*mǒchá* 抹茶). The upper echelons of society preferred the natural taste of loose leaf tea to the altered taste of tea which had been processed into tea cakes. Due to a reference made by the poet Liú Yǔxí 劉禹錫 (772–842), we know that loose leaf tea was already pan fried in the Táng period, and loose leaf tea overtook compressed cake tea in importance by the end of the Southern Sóng.[104] During this period, the *Illustrated Materia Medica* (*Běncǎo tújīng* 本草圖經), written ca. 1060, contains the first surviving illustration of a tea plant and describes tea as a medicinal substance.[105] At the same time as the rise in the popularity of loose leaf tea amongst the Sòng élite, in the 1070s and 1080s powdered tea ground by water mills became very popular in the Northern Sòng capital at Biànliáng 汴樑, and stone rollers for processing tea came into use. This flourishing period is in a sense the missing link in Chinese tea history because the Sòng represents an influential but lost episode in the evolution of tea culture.

Not only did Sòng tea culture shape subsequent developments, but it also profoundly inspired tea culture in Japan. Whereas the Sòng love of powdered green tea or *mǒchá* 抹茶 has been preserved and refined in Japan as *matcha* 抹茶, this practice has both fallen into disuse as well as passed into oblivion in China.[106] So, when Dutch seamen came to the East, they did not observe the drinking of powdered tea in China, where the practice had already been long abandoned. Instead, in Japan powdered tea had at the time become the principal way of preparing tea for the élite.

In 1655, the Dutch East India Company sent an embassy to the Chinese emperor Shùnzhì 順治 (*imperabat* 1643–1661). The governor general of the Dutch East Indies at Batavia, Joan Maetsuycker,

104 Huáng (2000: 523, 528).
105 Marié (2008) in Raibaud and Souty (op.cit., pp. 113–114).

106 Only in the past few years have Chinese tea producers in the area around 杭州 Hángzhōu taken once again to producing *mǒchá* 抹茶. Today the company Wúyùtài 吳裕泰 sells powdered green tea in small boxes containing fifteen individually wrapped packets. Each packet holds 1½ grammes of powdered green tea, deemed sufficient for one bowl of Japanese *matcha* or for use as an additive to a smoothie drink, as depicted on the box package. This product, newly available in some Chinese tea stores, yields a potable but harsh bowl of *matcha*, so that the product in its current state is rather better suited to making frothy green tea shakes.

FIGURE 2.27 Painting by Liú Sōngnián 劉松年 (1174–1224) depicting the grinding of tea during the Sòng dynasty
COLLECTION OF THE NATIONAL PALACE MUSEUM, TAIPEI

sent the two ambassadors Pieter de Goyer and Jacob de Keyser[107] and the emissary Johan Nieuhof to Peking via Canton. Nieuhof stayed in China until 1657. The account of his travels was prepared for publication in Amsterdam in 1665 by his brother Hendrick. Johan Nieuhof's first mention of tea pertains to the Mongol or Tartar way of preparing the beverage.

> In 't begin der Maaltijt wiert aan de Gezanten (gelijk de Grooten, 's lants- en hoogh-getijtelde Heeren aldaar gewoon zijn te doen, alsze iemant op 't heerlijkſt willen onthalen) het Boonenzop, of zekre drank, dien de Sineezen *Cha* of *The* noemen, geſchonken. Deze drank word van het kruid The, daar af wy hier na breder zullen ſpreken, aldus bereid: Zy laten een halve hand vol van het kruid *The* of *Cha* in ſchoon water luſtigh opzieden, by het doorklenſte afziedzel, zoo heet alsze dat verdragen kunnen, gietenze warme zoete Melk, ontrent een vierde gedeelte, met een weinig zouts, datze dan met elkandre

107 The name of this envoy is spelt by Nieuhof variously as Jakob de Keyzer, Jacob de Keyfer and Iakob de Keizer (Johan Nieuhof. 1665. *Het Gezantſchap der Neêrlandtſche Ooſt-Indiſche Compagnie, aan den grooten Tartariſchen Cham, den tegenwoordigen Keizer van China: waar in gedenkwaerdighſte Geſchiedeniſſen, die onder het reizen door de Sineeſche Landtſchappen, Quantung, Kiangſi, Nanking, Xantung en Peking, en aan het Keizerlijke Hof te Peking, ſedert den jare 1655. tot 1657. zijn voorgevallen, op het bondigſte verhandelt worden: beneffens Een Naukeurige Beſchryving der Sineeſche Steden, Dorpen, Regeering, Wetenſchappen, Hantwerken, Zeden, Godsdienſten, Gebouwen, Drachten, Schepen, Bergen, Gewaffen, Dieren, &c. en Oorlogen tegen de Tarters.* Amsterdam: Jacob van Meurs).

FIGURE 2.28
Johan Nieuhof (1618–1672), as depicted in an engraving by Jan Vos (1610–1667)
CENTRALE BIBLIOTHEEK VAN DE KATHOLIEKE UNIVERSITEIT TE LEUVEN

zoo heet influrpen. De Sineezen roemen immers zoo zeer op deze drank, als de Alchimiften op hunnen *Lapis Philofophorum*, of *Aurum Potabile*.[108]

108 Nieuhof (1665, Vol. 1, blz. 46).

At the beginning of the meal, the bean soup was, as it were, served to the envoys, or rather a certain beverage which the Chinese call *cha* or *the* (as the notables and the titled aristocrats of the land are accustomed to doing whenever they wish to receive someone in style). This drink is

> prepared in the following fashion from the herb about which we shall speak of in greater detail later: They let half a hand full of this herb *the* or *cha* boil vigorously in clean water, and then they add warm sweet milk to the steeped infusion as hot as they can bear it, so that the milk makes up a quarter portion of the drink, with a little salt, which they then imbibe, slurping the drink together. The Chinese extol the virtues of this drink in the same way that the alchemists praise their *Philosophers' Stone* or *Drinkable Gold.*

In a passage in the second volume of his account, Nieuhof contrasted the ways of drinking tea that he observed in China, in Japan and amongst the Tartars of the north.

> In 't bereiden en gebruiken van dezen drank is tuffchen de Sinezen en Japonners ook groot onderfcheit. Want de Japonners ftooten deze bladen tot een zeer fijn poeder, en mengen dat met ziedend water in een kroesje, daar in ontrent twee of drie lepelen nats mag, datze dan met elkandre al flurpende heet drinken. Maar de Sinezen fmijten etlijke bladen in een kroesje met heet water, datze dan zo warm, als de kracht der bladen in 't water is getrokken, mede al flurpende indrinken … Zommige Tarters … nemen een hant vol van deze Thee-bladen, en fmijten die in ziedend heet water, daar na nemenze viermaal zo veel van dit water als gekookte zoete-melk, en mengen daar een weinigh zouts onder, datze dan zo teffens warm uit houten koppen, die van binnen met zilver beflagen zijn, al flurpende indrinken.[109]

> There is also a great difference between the Chinese and the Japanese in the way that tea is prepared. The Japanese pound the leaves into a very fine powder and mix it with boiling water in a small bowl, in which about two or three spoonfuls of fluid are added and which they then drink together, hot in a slurping fashion. The Chinese, on the other hand, throw a bunch of leaves into a small bowl with hot water, which they then drink warm after the force of the leaves has infused into the water, likewise in a slurping fashion. Some Tartars take a handful of these tea leaves and toss them into the boiling water, and mix four parts of this infusion with one part sweet milk, to which they add a bit of salt and then likewise drink this warm in a slurping fashion, but from wooden cups that are lined with silver.

Nieuhof's reference to wooden bowls lined with silver in use amongst the Tartars for drinking tea will sound familiar to anyone who has drunk tea in Bhutan, for the same traditional vessels, known as *phôp 'ngöshecem* ཕོརཔ་དངུལ་ཞུན་ཅནམ་ 'silver lined cups', are still used in Bhutan to this day to drink *sûja* སྲུ་ཇ་ or churned Bhutanese salted butter tea, an old tradition shared with the Tibetans of the high plateau and the Tartars of the steppe.[110] The

109 Nieuhof (1665, Vol. II, *Algemeene Befchryving van 't Ryk Sina*, blz. 123–124).

110 In the context of Bhutan and Sikkim, Dzongkha is romanised in the phonological transcription called Roman Dzongkha (Karma Tshering of Gaselô and George van Driem. 1998. ༄རྫོང་ཁ། *Dzongkha*. Leiden: School of Asian, African and Amerindian Studies). The Dränjongke language is romanised in a phonological system called Roman Dränjongke, which is consistent and compatible with the conventions of Roman Dzongkha, but which respects the particularities of Sikkimese phonology. In Bhutan and Sikkim, the silver-lined cups are used not just for drinking tea, but also serve as receptacles for the side dish of vegetables or meat that is eaten with the rice. One or two of these cups are traditionally wrapped in a cloth and placed inside the personal two-part disc-shaped rice dish made of woven bamboo and called a *b'angcu* བང་ཅུང་, which is taken along when travelling from village to village, characteristically carried inside one's *g'ô*. In Sikkim, a *b'angcu* is referred to by the Dränjongke term *pelung*. It may be taken as a sign of the times that the author has misplaced his own *b'angcu* and silver lined cups, though these were constantly in use during his linguistic work in Bhutan from 1989 throughout the '90s and noughties. Many of the author's friends have evidently misplaced their own *b'angcu* and silver lined cups. Nowadays, *phôp 'ngöshecem* ཕོརཔ་དངུལ་ཞུན་ཅནམ་ are available

FIGURE 2.29
Sikkimese *phôp 'ngöshecem* ཕོརཔ་དངུལ་ཤན་ཅནམ་ 'silver lined cup'
PHOTO BY PHURBA TSHERING BHUTIA ཕུར་པ་ཚེ་རིང་སྦྲོ་ཏི་ཡ་, COURTESY OF THE NAMGYAL INSTITUTE OF TIBETOLOGY རྣམ་རྒྱལ་བོད་ཀྱི་ཤེས་རིག་ཉམས་ཞིབ་ཁང་, GANGTOK སྒང་ཏོག་, SIKKIM

Dzongkha term *sûja* སྲུ་ཇ་ appears to be cognate with the Tibetan general honorific term for tea *gsol-ja* གསོལ་ཇ་ [sœ̄tɕɑ̄], although the Dzongkha spelling seems to be inspired from Tibetan *ja-srub* ཇ་སྲུབ་ [tɕʰɑ̠sȳ] 'churned tea'.[111] The Tartars whom Nieuhof observed on his visit during the reign of the first Manchu emperor may have been Mongols or Manchus in northern China.

Nieuhof's observations were made in the 17th century. Half a millennium earlier, a visitor to the Sòng court at Biànliáng would have witnessed a very different Chinese tea culture, a flourishing and fascinating phase of Chinese arts and civilisation which was later extinguished by the Mongol conquest. One of the fine Sòng arts which was lost when Chinese culture went into eclipse after the Battle of Yámén in 1279 was the preparation of fresh finely powdered green tea. This art was lost to China during the ensuing Mongol rule. In 1378, by the beginning of the Míng dynasty, Yè Zǐqí 葉子奇 (1327–1390) observed in his *Record of Herbs* (*Cǎomùzǐ* 草木子) that the powdered tea that used to come from Jiāngxī 江西 was no longer to be had, and people had all switched to leaf tea.[112]

In order to make this powdered tea, the leaves were steamed to halt the oxidation of the natural phytochemicals and to seal in the flavours and fragrance. Then the green leaves were dried and ground into a very fine powder. Traditional *mǒchá* 抹茶 was prepared in a tea bowl with a bit of hot water and then whipped into a frothy green beverage with a bamboo tea whisk. The whisk, known in Chinese as a *zhúxiǎn* 竹筅, consisted of a short round segment of bamboo. One end is left intact to serve as the grip and the rest of the bamboo segment is finely sliced lengthwise to yield a bouquet of flexible fine tines for whipping. The tea was served in fine celadon ware, whose sublime greenish hues complemented the colour of the green tea.

During the Sòng, the practice of *diǎnchá* 點茶 was the elaborate preparation of powdered green tea in which the tea was ground to a fine powder and finally whipped into a frothy beverage. The procedure of preparation often assumed the form of a competitive game performed in order to assess

in Thimphu and Gangtok mainly from handicrafts and antique dealers.

111 The written Tibetan gSol-ja གསོལ་ཇ་ [soētɕɑ̄] explains the vowel length in the first syllable in the corresponding Dzongkha and Dränjongke forms. In Dzongkha, a long vowel in the first syllable is not suggested by the innovative Bhutanese orthography, but apophonic vowels such as /ö/ are treated in Dzongkha phonology as long vowels. However, the timbre of the vowel in the first syllable has come to differ in Dzongkha and Dränjongke from the Tibetan. In Sikkim, the Dränjongke form *sûj'a* differs from the Dzongkha form in having the expected 'soft' devoiced initial in the second syllable.

112 Stephen D. Ouwyang. 2009. 'Tea in China: From its mythological origins to the Qing dynasty', pp. 10–53 in Beatrice Hohenegger, ed., *Steeped in History: The Art of Tea*. Los Angeles: Fowler Museum at the University of California at Los Angeles (p. 49).

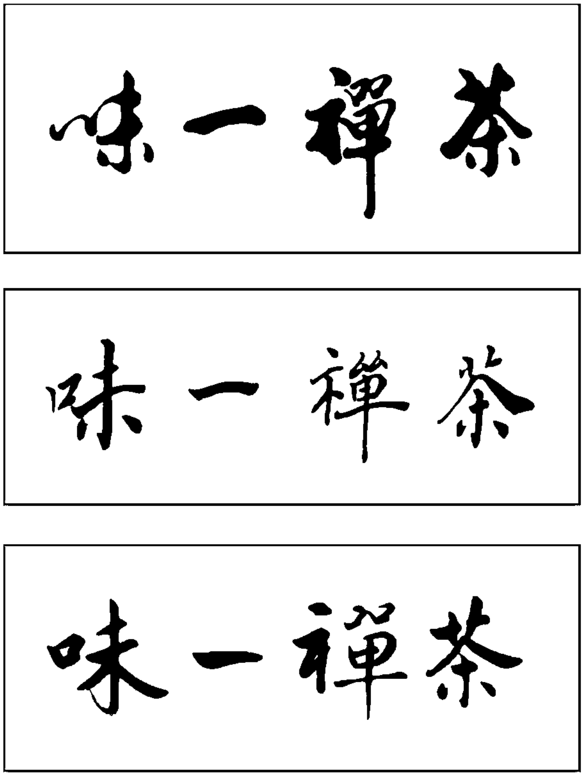

FIGURE 2.30
Three calligraphic renditions of the adage 'tea, Zen, one taste' 茶禪一味, which is attributed to the Zen preceptor Engo Kokugon 圜悟克勤, known in Chinese as Yuánwù Kèqín (1063–1135).

the quality of tea leaves and the resulting tea infusion itself by comparing the outcomes of various techniques of preparation. *Diǎnchá* consisted of several distinct stages, such as baking the tea, grinding the tea, sifting the tea, boiling the water, preparing and whisking the tea. These stages in the game were separately and cumulatively assessed and each stage afforded the opportunity to demonstrate the most excellent techniques in the preparation of tea. The term *diǎnchá* 點茶 itself is ascribed to Cài Xiāng 蔡襄, the governor of Fukien in the 11th century.[113] This game very much reflected the spirit of the times in Sòng dynasty China and came to serve as one of the sources of inspiration for the Japanese tea ceremony.

The preparation and consumption of powdered tea became a ritual practised by Zen Buddhist monks. Since the monks were permitted to eat only until midday, and then fasted for the rest of the day, tea helped them to keep awake during meditation. The Zen monastic code of 1103, entitled *Rules of Purity for the Zen Monastery* (*Chányuàn qīngguī* 禪苑清規), described the ritual etiquette to be observed in the preparation of tea in a monastery during the Northern Sòng. The Zen preceptor Yuánwù Kèqín 圜悟克勤 (1063–1135), author of the *Blue Cliff Record* (*bì yán lù* 碧巖錄), famously painted a calligraphic scroll which read *chá chán yī wèi* 茶禪一味 'tea, Zen, one taste'. In Japan, this celebrated Zen preceptor is known by the name Engo Kokugon.

Although the preparation of loose leaf teas and powdered green tea became the glass of fashion and the mould of form in Sòng aristocratic and monastic life, due largely to the horse and tea trade, most tea during the Sòng was still pressed into tea cakes, and most tea cakes were not of the highest quality because they were destined for the horse trade. Yet in China during the Sòng, even the tea made from the leaves that were compressed into tea cakes and tea bricks was already more often prepared as an infusion rather than boiled.

113 Huáng (2000: 559).

Tea producers at Péngzhōu 彭州 in the freshly incorporated tea growing region of Shǔ 蜀 adopted a technique, possibly originally used in Yúnnán, of briefly withering the tea in the sun to yield *máochá* 毛茶. Then the tea leaves were heated by steaming or firing in order to reduce the water content and fix the tea, preventing further oxidation. This tea could then be compressed into tea bricks which better preserved the flavour, and this procedure purportedly yielded the finest tea cakes ever produced.

The compressed tea also assumed artistic forms which were subject to changing fashion and tastes. The spherical dragon phoenix tea cakes (*lóngfèn tuánchá* 龍鳳團茶) became popular in the Tàipíng Xīngguó 太平興國 era (976–983), and tea in the shape of big dragon pearls (*lóngzhū* 龍珠) came into vogue during the Xiánpíng 咸平 era (998–1004). During the Qìnglì 慶曆 period (1043–1045), small dragon pearls came to be considered superior to big dragon pearls.

During the Sòng there is a proliferation of tea houses as public gathering places. Tea tasting contests were also conducted by scholars, literati, monks and priests. Tea battles (*dòuchá* 鬥茶) were a practice which had originated in the Táng but which really came into vogue during the Sòng, particularly during the reign of emperor Huīzōng 徽宗 (*imperabat* 1100–1127). In these competitions, criteria such as the appearance of the leaves, the colour and turbidity of the liquor, the aroma and the taste were all judged carefully to assess which tea was best. Some of these contests could take the form of very large competitions over several days and could acquire the form of a connoisseurs' tea war (*mǐngzhàn* 茗戰). Tea contraptions in various designs were made for keeping tea warm, though there is no documentary trail that might suggest that these could have provided the inspiration for the first samovar developed in The Hague by Jan de Hartog in the 17th century.

The Sòng dynasty saw numerous tea scholars who authored treatises of seminal importance for our understanding of tea preparation, the types of tea cultivated and the means of preparing tea during the Sòng period. The first technical treatise on tea in the Sòng was the text *Tea Records* (*Chálù* 茶錄), written in 1049 by the great calligrapher Cài Xiāng 蔡襄 (1012–1067). In this text, Cài argued against the addition of flavourings and against the packing of tea cakes in fragrant camphor wood, since such additives spoilt the inherent flavour of the tea and constituted adulterations. Cài himself developed the manufacture of small dragon tribute tea cakes of superlative quality. Cài Xiāng also extolled the quality of tea from Jiàn'ān 建安 (modern Jiàn'ōu 建甌) in northwestern Fukien (*Fújiàn* 福建), which then promptly came to be designated as one of the tribute teas for the Sòng court.

In 1064, another poet, Sòng Zǐ'ān 宋子安, wrote a famous account entitled *Report on the Tasting of East Brook Tea* (*Dōngxī shì chálù* 東溪試茶錄), in which he described the various locations of tea plantations in this part of Fukien. Another major source, *Essential Record of Tea Products* (*Pǐn chá yào lù* 品茶要錄) written by Huáng Rú 黃儒 in 1075, discussed possible pitfalls in the proper processing of tea leaves.[114]

Most notably, the famous Sòng emperor Huīzōng 徽宗 was a great connoisseur of tea and a patron of the arts. Born as Zhàojí 趙佶, the eleventh son of emperor Shénzōng 神宗, he ascended the throne upon the death of his elder brother Zhézōng 哲宗 in 1100. His favourite amongst the loose leaf teas was reputedly carefully processed white tea, which still showed white hairs and had been gathered from wild trees on forested cliffs. It should be kept in mind that what was termed white tea during the Sòng may not precisely have met the strict definition of this category as codified centuries later in the Manchu period. Huīzōng was also a champion of green powdered tea. In 1107, he authored the *Great Tea Treatise* (*Dà guān chá lùn* 大觀茶論). The emperor's masterly exposition documents the science and the art of tea during the time of the Northern Sòng. He emphasised that the tea from the youngest buds had a special flavour and salubrious qualities.

114 Huáng (2000: 517–518).

FIGURE 2.31
The Sòng emperor Huīzōng 徽宗 (*imperabat* 1101–1127), tea connoisseur, patron of the arts and champion of green powdered tea
COLLECTION OF THE NATIONAL PALACE MUSEUM, TAIPEI

As an arbiter of taste, Huīzōng referred to the first infusion of tea as breast milk (*rǔ* 乳), and he recommended the use of porcelain tea bowls in the darkest shade of midnight blue approaching black. He judged that the lush green colour of frothy powdered tea contrasted most vibrantly against the dark glazed background of Jiàn 建 ware vessels. He recommended that the bowls be delicate and thin, yet deep and wide for the whipping of the tea with the bamboo whisk. Such bowls are seldom found in China today, but remain popular in Japan, where powdered green tea or *matcha* is still regularly drunk. A noteworthy feature of such Sòng blackware tea bowls is that the black glaze is often decorated and fired with special markings that resemble rabbit fur markings (*tùháozhǎn* 兔毫盞), tortoise shell design (*dàimào zhǎn* 玳瑁盞), partridge feather design (*zhègūbān* 鷓鴣斑) or oil drops (*yóudī* 油滴). Emperor Huīzōng 徽宗 stated an aesthetic preference for rabbit fur markings, and such glazes too are still found today primarily in Japan.

The emperor was an assiduous practitioner of the tea ceremony at Biànliáng until the Jürchen

FIGURE 2.32
A Sòng blackware tea bowl of the type recommended by emperor Huīzōng 徽宗 to bring out the lush green colour of frothy powdered tea, fired to produce a glaze with the rabbit fur markings or *tùháozhǎn* 兔毫盏 preferred by Huīzōng, Southern Sòng dynasty, from the 1891 bequest of Edward Chandler Moore in the collection of the Metropolitan Museum of Art, New York

invasion in 1127. Even when the ceremony was not being practised as an outright ritual, a refined tea etiquette had developed which would endure for centuries in aristocratic circles. The rituals and observances which developed during the reign of Huīzōng would persist in China. Half a millennum later, the Jesuit Louis le Comte would observe that visits by mandarins were invariably accompanied by tea, and the taking of tea followed a strict etiquette:

> Durant la vifite on prefente toûjours deux ou trois fois du Thé. Il y a encore diverfes ceremonies à obferver, quand on prend la porcelaine, quand on la porte à la bouche, ou qu'on la rend aux domeftiques.[115]

> During the visit, tea is always presented two or three times. Moreover, there are various rituals which one must observe, when one takes the porcelain cup, when one brings the teacup to one's mouth, and when one hands it back to the servants.

Yet the Chinese tea etiquette which had managed to survive half a millennium later, and after having weathered a century of Mongol domination, had possibly already lost many of the features that characterised tea observances at the time of Huīzōng. Indeed, numerous Sòng dynasty tea practices have been more faithfully preserved in Japan than in China itself. Although Sòng tea practices no doubt directly influenced Japanese tea etiquette initially, the subsequent development of the Japanese tea ceremony in its classical form appears to have been very much an indigenous Japanese cultural innovation.

In China, however, Sòng dynasty tea culture was under threat and would remain so. Huīzōng abdicated in favour of his son Qīnzōng 欽宗 in 1126, but when the capital fell to the Jürchen invaders a year later, he and his son and his entire family, harem and court became captives. His ninth son managed to escape and, after many setbacks, this Sòng prince managed to re-establish the Sòng dynasty as emperor Gāozōng 高宗 at a new capital city far away, south of the Yangtze at Lín'ān 臨安,[116] which lay within what is today the city of Hángzhōu 杭州.

115 Louis-Daniel le Comte. 1696. *Nouveaux Memoires sur l'état present de la Chine* (three volumes). Paris: chez Jean Anisson, Directeur de l'Imprimerie Royale (vol. II, p. 62).

116 Patricia Buckley Ebrey. 2014. *Emperor Huizong*. Cambridge, Massachusetts: Harvard University Press.

FIGURE 2.33
Painting depicting a literary gathering of tea aesthetes, by the emperor Huīzōng 徽宗, tea master and connoisseur (National Palace Museum, Taipei, 184.4×123.9 cm)

The scholar Xióng Fán 熊蕃 provided detailed descriptions of the various types of tea cakes used as tribute as well as their names, packaging and dimensions in the valuable resource *Record of Xuānhé Period Tribute Tea on North Garden* (*Xuānhé běiyuàn gòngchá lù* 宣和北苑貢茶錄). The North Garden to which Xióng Fán refers was one of the exquisite tea plantations in Jiàn'ān 建安, the tea growing region in northwestern Fukien extolled by Cài Xiāng. The North Garden tea at this time often came as tea cakes in the form of dragon phoenix balls (*lóngfèng tuánchá* 龍鳳團茶), laboriously crafted in the Bohea mountains of Fukien.

The next famous work, dating from the time of the Southern Sòng, is the celebrated *Pictorial of Tea Ware* (*Chá jù tú zàn* 茶具圖讚) by Shěn'ān Lǎorén 審安老人. This text, written in 1269, describes the various implements and methods of preparing tea in use during the Sòng dynasty, from whipping finely ground green powder tea into a froth with a bamboo whisk to preparing infusions from leaves.

The Sòng period also saw a proliferation of tea poetry, a tradition which had begun to flourish under the Táng. Celebrated tea poets of the period include Wáng Yǔchēng 王禹偁 (954–1001), Fàn Zhòngyān 范仲淹 (989–1052), Méi Yáochén 梅堯臣 (1002–1060), Ōuyáng Xiū 歐陽修 (1007–

1072), chancellor Wáng Ānshí 王安石 (1021–1086), Sū Shì 穌軾 (1037–1101) and his brother Sū Zhé 蘇轍 (1039–1112), Huáng Tíngjiān 黃庭堅 (1045–1105) and Lù Yóu 陸游 (1125–1210). A tall Khitan scholar with a long beard, remembered in Chinese as Yēlǜ Chǔcái 耶律楚材 (1190–1244), also became a tea poet. This descendant of the old Liáo 遼 royal family became an adviser to Genghis Khan and attempted to exert a civilising influence on the great khan. Chinese scholars have traditionally adopted a condescending appraisal of this poet, viewing him as less accomplished than native Chinese poets.

Fine poetry and artistic sophistication offered no defence against a numerous and brutal enemy on horseback. After the fall of the Northern Sòng, the Sòng capital was moved in 1132 to Lín'ān 臨安 on lovely West Lake, in the eastern part of present-day Hángzhōu 杭州. The new capital was located in the midst of a prime tea growing region that was already duly famous for its Dragon Well (*lóngjǐng* 龍井) tea, and Sòng culture continued to flourish until its bright light was extinguished in 1279.

Chinese Tea Culture Blossoms Anew in the Míng

The Mongols drank boiled dark brick tea mixed with salt and with butter or mare's milk, though some Mongols acquired the taste for tea brewed the Chinese way. After nearly a century of Mongol rule (1279–1368), China was in economic and administrative disarray, and the Yuán government was in a state of collapse. Then in 1368, Zhū Yuánzhāng 朱元璋 seized and burnt the Mongol capital at Khanbaliq and renamed the city Běipíng 北平 'northern peace'. He established the Míng dynasty at Jiànkāng 建康 on the lower Yangtze, where he constructed the new capital, renaming the city Yìngtiān 應天. Later, at the beginning of the reign of the Yǒnglè 永樂 emperor (*imperabat* 1402–1424), the Míng capital was effectively moved from Yìngtiān north to Běipíng, which thus became Peking (*Běijīng* 北京 'northern capital'). The new status of Peking became official in 1421, so that the old capital at Yìngtiān consequently came to be called Nanking (*Nánjīng* 南京 'southern capital').

Also known by the name Tàizǔ 太祖, the man Zhū Yuánzhāng who vanquished the Mongols became the celebrated Hóngwǔ 洪武 emperor (*imperabat* 1368–1398) and the first ruler of the Míng dynasty (1368–1644). Until the court was fully transferred north to Peking, Chinese art and literature flourished more exuberantly in the balmy lower Yangtze basin. During the Sòng dynasty, a jarring discrepancy had obtained between the predilection for fine loose leaf tea and finely powdered green tea in cultivated circles as opposed to the preponderance of compressed brick tea for mass consumption and fueling the horse tea trade. By the Míng, powdered tea had already begun to pass into oblivion in China, but a decisive step in resolving the polarity between compressed and loose tea was taken in favour of loose leaf tea by the Hóngwǔ emperor when he reached the ripe age of 63.

In the year 1391, on the 16th day of the 9th lunar month of the 24th year of his reign, the first Míng emperor issued an edict that tea tribute to the imperial court must come in the form of loose leaf tea, and no longer in the form of tea bricks. Tea leaves that had been compressed into bricks or cakes were no longer deemed to be fit for imperial consumption. A tea grading system was established, and loose leaf tea became the standard. Tea bricks would continue to be manufactured for export to Tibet and, centuries later, also to Russia. Tea bricks were later still preferred for certain types of tea such as Pǔ'ěr 普洱, and there have always been those who would fancy brick tea. However, the widespread preference for loose leaf tea from the early Míng onward led to a proliferation of different types of tea. Loose leaf tea acceptable as imperial tribute came either in the form of bud tea (*yáchá* 芽茶) or leaf tea (*yèchá* 葉茶).[117]

During the Míng, the Táng dynasty practice of picking loose tea from young leaf buds was encouraged. The fermentation process was stopped by

117 Huáng (2000: 529).

FIGURE 2.34
The Míng emperor Hóngwǔ 洪武 (*imperabat* 1368–1398), who decreed in 1391 that tea tribute to the imperial court must come as loose leaf tea and no longer in the form of tea bricks, hanging scroll on silk, 270 × 163.6 cm, collection of the National Palace Museum, Taipei

pan frying the tea leaves in dry woks that had been invisibly greased with a few drops of the oil pressed from tea seeds, though in some cases this oil was alternatively from the pressed seeds of the related species, the oil tea tree *Camellia oleifera* (*yóuchá* 油茶). The process of spreading, rolling and roasting became more strictly codified. Teapots became more important, and a preference developed for small teapots and tea cups. Big teapots were avoided because the tea becomes astringent and bitter when brewed in large quantities.

The Hóngwǔ emperor himself had a stated preference for *blanc de Chine* teacups and teapots in which the colour of green tea could be optimally appreciated. The imperially favoured lustrous and delicate *blanc de Chine* porcelain from Déhuà 德化 can be seen as the culmination of a development superseding the precursors of the ofttimes chalky white porcelain known as Xíng 邢 ware of the Táng dynasty from Héběi and the white Qīngbái 清白 porcelain of the Sòng from Jǐngdézhèn 景德鎮, which was not actually 'pure white' but a glossy white with a translucent greenish tinge.

FIGURE 2.35
Xíng 邢 ware oftimes showing a chalky texture and representing a spiritual precursor to the later *blanc de Chine* porcelain, this bowl with lipped rim of the late 9th or early 10th century, late Táng dynasty or Five Dynasties period, diameter 21.3 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

FIGURE 2.36
The Hóngwǔ emperor preferred *blanc de Chine* teacups and teapots, known in Mandarin as Déhuà 德化 porcelain, in which the colour of green tea could be optimally appreciated, such as the tea cup pictured here that was fired during the reign of emperor Kāngxī 康熙 (1661–1722)
COURTESY OF ROB MICHIELS AUCTIONS IN BRUGGE, BELGIUM

At the same time, the matte Yíxīng 宜興 ware from a town by the same name in Jiāngsū 江蘇 province, first developed during the Sòng, gained in popularity during the Míng. Because they are made of purple clay (*zǐshā* 紫砂) from the area around the Great Lake, these teapots are renowned for their properties of thermal retention. The lead-free clay is porous. Therefore the teas brewed in the pot flavour the teapot over time. The teapot owner therefore 'raises' (*yǎnghú* 養壺) the teapot to be suited to a particular type of tea through continued use. Consequently pots of this type are generally used for oolong tea or Pǔ'ěr tea, but are not preferred for brewing green or white tea.

Once a Yíxīng teapot has been broken in for a particular type of tea, it is best to reserve the pot specifically for brewing that variety of tea. Yíxīng ware from the 16th century is made from red clay, and the iconic Yíxīng teapot comes in this terracotta colour. From the beginning of the 17th century, brown clay was also used, and from the second half of the 17th century yellow or cream coloured clay and occasionally black clay have also been used. The more artistic Yíxīng pots may be beautifully decorated and exquisite in form.[118]

During the Míng, natural simplicity and better flavour once again became the most important criteria. Míng literati held that tea refined one's temperament, and early Míng poetry slavishly imitated earlier Táng dynasty poetic models, but later Míng poetry showed itself to be creative. One of the famous Míng epicurean tea aesthetes was Zhū Quán 朱權 (1378–1448), the 17th son of the Hóngwǔ emperor. Rather than remaining in the cold centre of political intrigue, he lived in the south enjoying music, playing the zither, drinking tea, writing and reading poetry and leading a bucolic lifestyle.

118 Patrice Valfré. 1999. 'La redécouverte des théières de Yixing', pp. 209–223 in Greet Barrie and Jean-Pierre Smyers, eds., *Tea for 2: Les rituels du thé dans le monde*. Bruxelles: Crédit Communal.

FIGURE 2.37
The eponymous matte ware from the town of Yíxīng 宜興 in Jiāngsū 江蘇 province makes for ideal teapots.

Choosing a life of seclusion, he was not compelled to pay attention to worldly affairs. He advocated simplicity of process in order to keep the tea natural and pure, and in 1440 he wrote a succinct *Tea Discourse* (*Chápǔ* 茶譜) about tea preparation and degustation. The work contains sixteen chapters on selecting, storing, whisking and scenting tea, numerous tea preparation implements and the treatment and selection of the water. His preference for white tea bowls echoed the predilection of his father, and he recommended that water be boiled in cast iron kettles. He also authored a *Discourse on the Mysterious and Marvellous* (*Shénqí mì pǔ* 神奇秘譜), documenting numerous zither scores.

A century later, in 1541, a tea treatise bearing the same title *Tea Discourse* (*Chápǔ* 茶譜) as that of Zhū Quán's book was authored by Qián Chūnnián 錢椿年, also known as Gù Yuánqìng 顧元慶 (1487–1565), in which the author specified the requisites for preparing good tea and discussed the use of flavourings such as ginseng. It was during this period, the reign of emperor Jiājìng 嘉靖 (*imperabat* 1521–1567), that tea vessels began to be made in the new 'five colours' porcelain (*Wǔcǎi* 五彩) of the period. In 1554, Tián Yìhéng 田藝蘅 (1524–1574) emulated earlier work in his poetic *Boiling Water from Various Springs* (*zhǔquán xiǎopǐn* 煮泉小品), in which he treated matters of tea drinking and diverse varieties of tea.

In 1570, Lù Shùshēng 陸樹聲 wrote his famous *Tea Hut Notes* (*Chá liáo jì* 茶寮記). Tú Lóng 屠隆 (1542–1605) wrote about types of tea and the handling, storage and degustation of tea in his *Tea Talks* (*Chá shuō* 茶說) in 1590. In 1591, Gāo Lián 高濂 wrote the *Eight Treatises on the Art of Living* (*Zūn shēng bā jiān* 遵生八箋) which contains passages on the aesthetics of tea culture, including garden architecture and bonsai trees. Chén Shī 陳師 wrote a collection of *Comments on Tea* (*Chá kǎo* 茶考) in 1593, dealing mainly with the processing of tea and its degustation. Chén Jìrú 陳繼儒 (1558–1634) wrote *Compliments to a Tea Director* (*Chá dǒng bǔ* 茶董補) and around 1595 he wrote *Tea Talk* (*Cháhuà* 茶話).

Míng dynasty work on tea, which also stressed the importance of water quality in determining the flavour of the tea, included the *Tea Records* (*Chálù* 茶錄) written by Zhāng Yuán 張源 in 1595 and the *Tea Report* (*Cháshū* 茶疏) written by Xǔ Cìyū 許次

FIGURE 2.38
The painting of tea brewing and tasting by Wén Zhēngmíng 文徵明 (1470–1559) depicts the idyllic and carefree life led by tea aesthetes such as Zhū Quán 朱權 (1378–1448), the 17th son of the Hóngwǔ emperor and author of the *Tea Discourse* 茶譜, collection of the National Palace Museum, Taipei.

FIGURE 2.39
Dish in *Wŭcăi* 五彩 or five colours porcelain with fish and waterweed motif from the reign of emperor Jiājìng 嘉靖 (*imperabat* 1521–1567)
PHOTOGRAPHED BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

紓 in 1597. Both treatises also dwelt on questions of the proper processing, storage and drinking of tea. In particular, the *Tea Report* by Xǔ Cìyū 許次紓 in 1597 is scathing about the Sòng dynasty practice of producing exorbitantly priced tea cakes which retained none of the natural aroma or hue, thus yielding inferior tea. Instead, he exhorted that, in making the loose leaf tea from the famous North Garden (*běiyuàn* 北苑) in Jiàn'ān in northwestern Fukien, only the heart of the new bud or sparrow's tongue (*quèshé* 雀舌) should be used.[119]

In 1598, Zhāng Qiāndé 張謙德 wrote an overview of tea qualities and tea implements in his *Book of Tea* (*Chá jīng* 茶經). Around the year 1621, Wén Zhènhēng 文震亨 (1585–1645) wrote a *Treatise on Superfluous Things* (*Zhǎng wù zhì* 長物志), in which he advised retired people to hire a boy as a tea servant for one's garden tea hut and to indulge in the finest teas, whether regaling guests or engaged in solitary contemplation. In 1630, Wén Lóng 聞龍 wrote a treatise on methods of processing tea entitled *Tea Notes* (*Chá jiān* 茶箋). The list of works produced on tea during the Míng, both serious and serendipitous, goes on and on.

Between 1405 and 1433, the eunuch Zhèng Hé 鄭和 sailed across the Indian Ocean to Africa and embodied China's short-lived maritime experiment under the Míng dynasty. Theoretically, Zhèng Hé could have spread tea to wherever he went, and he sailed to Indochina, Borneo, Java, Sumatra, Burma, India, Ceylon, Persia, Oman, Yemen, the Horn of Africa and into the Red Sea, and perhaps as far as Mombasa. Yet no evidence would appear to indicate that his seven sea voyages led to the spread of Chinese tea culture. There is a ceremonial tomb containing some of his possessions in Nanking, but Zhèng Hé himself was buried at sea in the waters off of Calicut in 1433.[120] It is here that 65 years later the first Portuguese ships in Asian waters would make landfall, and it is during the Míng period that Europeans would first learn about tea.

119 Huáng (2000: 534).

120 Louis Levathes. 1996. *When China Ruled The Sea: The Treasure Fleet of the Dragon Throne 1405–1433*. New York: Oxford University Press (p. 172).

A ilha formosa

Formosan teas are amongst the most exquisite of Chinese teas, with Táiwān currently producing the finest oolongs in the world. It is of great historical interest to understand how Chinese tea came to be cultivated on the island of Formosa in the first place, and this episode in Chinese history begins during the transition from the Míng to the Manchu dynasty. Táiwān was initially an island inhabited by Austronesian peoples speaking indigenous Austronesian languages such as Ketagalan, Basay, Kulon, Saisiyat, Pazih, Thao, Rukai, Taokas, Papola, Bubuza, Hoanya, Tsou, Siraya, Paiwan, Puyuma, Amis, Nunun, Atayal, Taroko, Sakizaya, Seediq and Kavalan on Formosa as well as the Yami or Tao language on outlying Orchid Island.

The Portuguese name for Táiwān was first recorded in a published source as *a ilha formosa* 'the beautiful island' by the Dutchman Jan Huygen van Linschoten in 1595 in his account of the island and its location.

> het Eylandt *A Ilha fermofa* (ofte 'tfchoone Eylandt) …'t Eylandt *Ilha Fermofa*, ofte 'tfchoone Eylād, 'twelcke een lanckwerpent en leech landt is …[121]
>
> the island *A ilha formosa* (or the beautiful island) … the island *ilha formosa*, or the beautiful island, which is an elongated and empty land …

Portuguese seamen started referring to Táiwān as 'the beautiful island' soon after they first began sailing past it in 1542 on their way to Japan because of the beauty of the tall and verdant Formosan hills as seen from the sea. The Portuguese habit of referring to the island by this name was already firmly established by the time that a crew of about two hundred Portuguese seamen were shipwrecked on the island for ten weeks in the year 1582.[122]

In 1582, the Spanish Jesuit Alonso Sanchez sailed from Manila to Macau to bring the news that Philip II had in 1580 managed to acquire the throne of Portugal for the Habsburg dynasty and so had united the thrones of Portugal and Spain. This Iberian Union was to last for sixty years until the Restoration of the Portuguese monarchy under the House of Bragança in 1640. After Sanchez had talked the reluctant Portuguese in Macau into acquiescing to their new suzerain, he set sail for Manila via Japan in one of the junks belonging

121 Ian Hvyghen van Linschoten. 1595. *Reysghefchrift Vande Navigatien der Portugaloyfers in Orienten, inhoudende Zeevaert, foo van Portugael naer Ooft Indien, als van Ooft Indien weder naer Portugael; Infgelijcx van Portugaels Indien, nae* Malacca, China, Iapan, *d'Eylanden van* Iava *ende* Sunda, *foo in't heen varen, als in't wederkeeren; Item van* China *nae Spaenfchs Indien, ende wederom van daer nae* China; *Als oock van de gantfche Cuften van Brafilien, ende alle die Havens van dien; Item van't vafte landt, ende die voor Eylanden* (Las Antillas *ghenaemt*) *van Spaenfchs Indien, met noch de Navigatie vande* Cabo de Lopo Gonfalues, *naer* Angola *toe aen de Cufte van* Æthiopien; *Mitfgaders alle die Courfen, Havens, Eylanden, diepten ende ondiepten, fanden, drooghten, Riffen ende Clippen, met die gheleghentheydt ende ftreckinghe van dien. Defghelijcks die tyden vanden jare dat dewinden waeyen, met die waerachtighe teeckenen ende kenniffe van de tyden, ende het weer, wateren, ende ftroomen, op alle die Orientaelfche Cuften ende Havens, ghelijck fulcks alles gheobferveert ende aen gheteyckent is, van de Piloten ende s'Coninghs Stuer-luyden, door de gheftadighe Navigatie, ende experientie byde felfde ghedaen ende bevonden. Alles feer ghetrouvvelijcken met grooter neerfticheyt ende correctie by een vergadert, ende uyt die Portugaloyfche ende Spaenfche in onfe ghemeene Nederlandtfche Tale ghetranflateert ende overghefet.* t'Amftelredam: Cornelis Claefz. op't VVater, in't Schrijf-boeck, by de oude Brugghe (pp. 85, 87, *passim*).

122 «… una ysla que llaman hermosa por la linda apariencia que tiene desta parte de montañas altas y verdes por entre la qual y la costa de la china a ya quarenta años poco mas o menos que los portugueses á xapon sin nunca haberla reconocido ni llegado a ella …» (Pablo Pastells. 1900. *Labor Evangélica: Ministerios Apostólicos de los Obreros de la Compañía de Iesvs, Fvndación, y Progressos de su Provincia en las Islas Filipinas, historiados por el padre Francisco Colin, Provincial de la misma Compañía, Calificador del Santo Oficio, y sv Comissário en la Governación de Samboanga, y su Distrito.* Barcelona: Imprenta y Litografia de Henrich y Compañía, Tomo I, p. 299, fn. 1).

to the affluent and ostentatious Macau merchant Bartolomeu Vaz Landeiro.

The captain of the junk, André Feio, fell asleep at the helm before dawn on the 17th of July, thereby running the ship aground on a sandbank off of the southwestern coast of Formosa. The ship broke up after several days. During this time, the crew managed to get ashore with some of the cargo and timber. Some of the crew who strayed into the jungle were killed by the arrows of native Formosan head hunters, but by the end of September the shipwrecked survivors had managed to build a skiff. The stranded Portuguese seamen and the Spanish Jesuit set sail and reached Macau after eight days at sea.[123]

The native Austronesian peoples of Formosa exercised the prudent martial strategy of defending their territories from one another and protecting their island as a whole against intruders. The Portuguese who strayed into the jungle away from the rest of the shipwrecked crew paid for their curiosity with their lives. Since the Formosans were known to keep intruders from their island with such determination and ferocity, Chinese fishermen from Fukien (*Fújiàn* 福建) set their nets at the Pescadores (*Pēnghú* 澎湖) and even as far as the Formosan coast, but maintained no permanent settlements on the island.

In June 1603, the *Erasmus* and the *Nassau* became the first two Dutch ships to sail to China, where they attacked a Portuguese galleon headed for Japan that was moored in Macau. The Dutchmen set fire to the vessel and made off with its cargo, whilst the Portuguese managed to kill a fair number of Dutch sailors in the defence of their ship.[124] Because these first two Dutch vessels chose to engage the Portuguese in the ongoing war, they were unable to engage in trade with the Chinese, although their booty contained much silk and gold. The following year, in June 1604, admiral Wijbrant van Waerwijck sailed from Pàttaːni: ปัตตานี to China, reaching the islands of the *Anfeado dos Ladrones* (Wànshān 萬山 archipelago) at the mouth of the Pearl river in July, and then he and his crew were blown by a storm in August 1604 all the way to *Peho*, i.e. Pēnghú, in the Pescadores.[125]

Two decades later, the Dutch established themselves on Formosa. In 1624, Martinus Sonck (1590–

123 Charles Ralph Boxer. 1959. *The Great Ship from Amacon: Annals of Macao and the Old Japan Trade, 1555–1640*. Lisboa: Centro de Estudos Históricos Ultramarinos (pp. 41–44).

124 Isaac Commelin. 1646. 'Historiſche Verhael Vande Reyſe gedaen inde Ooſt-Indien, met 15 Schepen voor Reeckeninghe vande vereenichde Gheoctroyeerde Ooſt-Indiſche Compagnie: Onder het beleydt van den Vroomen ende Manhaften Wybrandt van Waerwijck, als Admirael, ende Sebaldt de Weert, als Vice-Admirael. Wt de Nederlanden ghevaeren in den Iare 1602', *Begin ende Voortgangh, van de Vereenighde Nederlantſche Geoctroyeerde Ooſt-Indiſche Compagnie Vervatende de voornaemſte Reyſen, by de Inwoonderen der ſelver Provincien derwaerts gedaen. Alles Nevens de beſchrijvinghen der Rijcken, Eylanden, Havenen, Revieren, Stroomen, Rheeden, Winden, Diepten en Ondiepten; Mitſgaders Religien, Manieren, Aerdt, Politie ende Regeeringhe der Volckeren; oock meede haerder Speceryen, Drooghen, Geldt ende andere Koopmanſchappen met veele Diſcourſen verrijckt: Nevens eenighe Koopere Platen verciert. Nut ende dienſtigh alle Curieuſe, ende andere Zee-varende Liefhebbers* (two volumes). Amsterdam: Johannes Janssonius (p. 72 in the 88 numbered pages which constitute the final instalment in the first volume).

125 Commelin (1646, Vol. 1, last instalment, pp. 71–76). The many islets and reefs to the west of the Philippine island of Paragoa, now called Palawan, which comprise the Spratlys were well known to Portuguese seamen from the first half of the 16th century and to Dutch mariners ever since the voyages to China in 1603 and 1604 under admiral Wybrandt van Waerwijck. On a set of seventeenth-century Dutch maps kept at the National Archive in The Hague, including a 1687 map by Joan Blaeu, catalogued as 'Kaart van de Chineesche Zee en Kust, van Straat Drioens tot Nanquin, en de eilanden van Borneo tot Japan en de Ladrones', the islets labelled *Princen Eylanden* 'Prince Islands' correspond to Itu Aba Island, the Sin Cowe islet group, Lawak Island, Thitu or Pagasa Island, Loaita Island and Likas or West York Island. The more northerly *Pruijssen Bank* 'Prussia Bank' on the maps appears to correspond to Parola Island or Northeast Cay and Pugad Island or Southwest Cay. The southwesterly island group that is labelled *Vigia* on these maps marks Spratly Island and Amboyna Cay.

FIGURE 2.40 The Dutch fort Zeelandia established in 1624 on the sand bar known as Taioan in the locally native Siraya language, just off the southwestern coast of the island of Formosa

1625) set up Fort Zeelandia on a small sandy islet which was known by the indigenous Formosan name of *Taiyouan* in the locally spoken Siraya language. This Siraya place name was recorded in Dutch sources of the period variously as *Taioan, Teyouvan*, *Teyoan, Tayouan, Taiyouhan* and *Taiyouan*.[126] The following year Sonck drowned near the fort that he had founded, but from *Taiyouan* the Dutch extended their control over the entire island of Formosa, which they held until 1662. Later shifting sands joined the island of *Taiyouan* to the Formosan coast to form an isthmus, where today it forms part of the Ānpíng 安平 district of the city of Táinán 臺南.

However, in 1626, two years after the Dutch had established Fort Zeelandia, the Spanish established fort San Salvador in the bay of Santísima Trinidad, known to fishermen from Fukien as Keelung (*Jīlóng* 基隆) and to the Dutch as the bay of Quelong. Three years later, the Spanish established a second fort called Santo Domingo in 1629 in the area that has today become Tamsui (*Dànshuǐ* 淡水). The Spanish presence was an irritant to the Dutch, and the Iberians were finally driven out by the Formosan governor Paulus Traudenius in 1642 after a first failed attempt in 1641.[127]

Since the indigenous peoples of Formosa practised subsistence farming, hunting and gathering, the Austronesian populace could not be profit-

126 Willem Pieter Groeneveldt. 1898. *De Nederlanders in China: De eerste bemoeiingen om den handel in China en de vestiging in de Pescadores (1601–1624) (Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië*, zesde volgreeks, vierde deel oftewel deel XLVIII der geheele reeks, blz. i–xii, blz. 1–598). 's Gravenhage: Martinus Nijhoff (blz. 102, 170); Viallé (1992: 18, 19).

127 J. Leonard Blussé van Oud-Alblas, Wouter E. Milde and Ts'ao Yung-Ho 曹永和. 1986, 1995, 1996, 2000. *De Dag-Registers van het Kasteel Zeelandia, Taiwan 1629–1662* (four volumes). 's Gravenhage: Martinus Nijhoff (first volume), and Den Haag: Instituut voor Nederlandse Geschiedenis (second, third and fourth volume).

FIGURE 2.41
Blue and white vase from Jǐngdézhèn 景德鎮 that was brought to Holland in the 17th century

ably taxed to generate revenue for the Dutch East India Company, although the colonial government did attempt to excise 10% of the yield of farming, fishing and hunting. Instead, therefore, the Dutch administration undertook to settle tens of thousands of Chinese people from Fukien on Formosa, thus setting into motion the demographic sinification of the island. In retrospect, this resettlement programme can be seen as the first implementation of the Dutch colonial policy of *transmigrasi*, as it came to be known in Malay, that would later be employed in the Indonesian archipelago to settle Javanese on other islands of the Dutch East Indies. The idea behind this plan was to settle Formosa with Chinese merchants and farmers who could be profitably taxed because their commerce would furnish a sustainable revenue base. Meanwhile, Dutch missionaries made efforts to spread Christianity amongst the indigenous Austronesian peoples.

On the 1st of February 1662, the Dutch were driven from Formosa and the Pescadores by Zhèng Chénggōng 鄭成功, better known by his *nom de guerre* Coxinga or Koxinga (*Guóxìngyé* 國姓爺). Coxinga was born of mixed Hokkien and Japanese parentage in 1624 at Hirado on the coast nearby Nagasaki. He initially made a career as a pirate along the Hokkien or Fukienese coast but later

became a Míng dynasty loyalist who fought against the new Manchu dynasty. To secure a bastion for the rearguard of the faltering Míng resistance, Coxinga attacked Formosa in March 1661. After seizing the fort, he had the missionary Antonius Hambroek beheaded, killed most of the other Dutchmen in the fort and then took their wives and daughters into life-long sexual slavery.

Coxinga died at the age of 37 on the 23rd of June 1662, within five months after the capture of Fort Zeelandia. Many of the Chinese who had been settled by the Dutch in the areas under Fort Zeelandia sided with Coxinga in driving their European rulers from the island, but for the native Formosans the replacement of Dutch rule by Chinese rule under Míng loyalists merely meant substituting one form of foreign domination for another.

After the collapse of the Míng in Peking in 1664, Míng dynasty loyalists united under the new Míng emperor Hóngguāng 弘光, who was enthroned at Nanking but reigned for only one year before he was captured by Manchu troops. In the south, the Southern Míng resistance held out by moving to the kingdom of Tungning (*dōngníng wángguó* 東寧王國), a polity run by Coxinga's grandson on the island of Formosa in areas that had formerly been administered under Fort Zeelandia, around present-day Táinán 臺南.

In 1664, the Dutch East India Company took back Quelong, which they abandoned again, however, in 1668. The Dutch allied themselves with the Manchu dynasty, and in 1683 with Dutch military and naval aid the Manchu governor of Fukien secured a foothold on the northeastern coast of Formosa near Quelong. Then, on the 5th of September 1683, the Dutch and Manchu forces wrested the island from Coxinga's grandson. Afterwards the island was gradually subjugated to Manchu rule under the Qīng dynasty. At this time, the native Siraya place name 'Taiyouan' for the original sandy site of Fort Zeelandia came to be adopted as the new Chinese name for the entire island, Táiwān 臺灣. The island became gradually sinified, and by 1990 roughly 332,000 indigenous Formosans lived in Táiwān alongside a population of 20 million Chinese. The native Austronesian peoples of the island have today been reduced to dwindling ethnolinguistic minorities in their native homeland.

After Chinese settled the island, farmers began planting tea trees on a small scale and setting up small tea plantations from 1697. Tea entrepreneurs brought cuttings and plants from the Bohea mountains (*wǔyí shān* 武夷山) in Fukien to Formosa. Soon Lo̍k-kok (*Lùgǔ* 鹿谷) in Nántóu 南投 county was established as the heartland of Táiwān's oolong tea growing area. From 1865 to 1894, the export of Formosa tea came to be taken over and dominated by foreign marketeers such as John Dodd, who had come from England to Táiwān in 1860. Through the good offices and expertise of the Amoy merchant Lí Tshunsing 李春生 (1838–1924), Dodd established Dodd & Co. in 1864. Other foreign tea merchants quickly opened up shop in Formosa, amongst them Tait & Company, Jardine & Matheson from 1858 and Hellyer & Company. These Western companies exercised a stranglehold on the tea export trade, and by 1869 Formosan tea was being shipped to Europe and America.

After the First Sino-Japanese War (*gerebatur* 1894–1895), the Japanese took over Formosa, which they administered from 1895 until the end of the Second World War in 1945. During the Japanese colonial period in Formosa, tea and sugar were the largest export earners. Ironically, it is during the Japanese period that the *assamica* variety of tea was first introduced to the island for the production of black teas in the Anglo-Indian style. In fact, even in Japan itself the *assamica* variety was introduced after the Meiji Restoration in 1868 during Japan's frantic drive to modernise and outpace Western colonial powers. This led to the production and export of Japanese black tea, some of which was produced with *assamica* cultivars or *assamica* hybrids.

In 1912, the Republic of China (*Zhōnghuá Mínguó* 中華民國) overthrew the Qīng dynasty in a revolution led by Dr. Sun Yat-sen 孫逸仙 (1866–

FIGURE 2.42
Jar and cover in *Wǔcǎi* 五彩 porcelain with carp and waterweed motif from the reign of emperor Jiājìng 嘉靖 (*imperabat* 1521–1567), 40.8 cm in height
IMAGE COURTESY OF SOTHEBY'S, LONDON

1925),[128] leader of the Kuomintang 國民黨 (*Guómíndǎng*), who planned the Chinese revolution in the back room of a Shànghǎi tea house in 1911.[129] As first president of the Republic of China, Sun Yat-sen was quickly sidelined after just a few months in office. The first university courses in tea science were offered in 1936 at the Sun Yat-sen University in Canton,[130] founded by Sun Yat-sen in 1924. Tea culture continued to flourish under the republic, and Wú Juénóng 吳覺農 founded the Department of Tea Science at Fùdàn University in 1940. At the end of the Second World War, communist insurgents saw their chance to destabilise the republic, launching the Chinese civil war (*gerebatur* 1946–1950). This war was essentially a resumption in a yet fiercer form of the communist insurgency against the government of the Republic of China that had terrorised the countryside from 1927 to 1937. This new phase of the conflict culminated in their leader Máo Zédōng 毛澤東 proclaiming the People's Republic of China (*Zhōnghuá Rénmín Gònghéguó* 中華人民共和國) in Peking in 1949.

In the same year, the government of the Republic of China moved to Taipei, which was proclaimed the new temporary capital of the Republic of China by Chiang Kai-shek (蔣介石 1887–1975) in December of that year. This fissiparous move led to today's paradoxical situation whereby the original Chinese republic that overthrew the Manchu dynasty in 1912 continues to thrive on Formosa, an

128 Dr. Sun Yat-sen was of Cantonese and Hakka ancestry. The English rendering of his name is taken from the Cantonese *syun¹jat⁶sin¹* 孫逸仙 [syːn ˥ jɐt ˧ siːn ˥] (cf. Hakka *sùn yít sien*).

129 Maguelonne Toussaint-Samat. 2008. *A History of Food* (second edition). Chicester: Wiley-Blackwell (p. 536).

130 Shana Zhang & J.T. Hunter. 2015. *The Wild Truth of Tea*. Kūnmíng: Wild Tea Qi and International Tea Academy Publishing (p. 17).

FIGURE 2.43
Tumble dryer from Táiwān for withering used in the manufacture of oolong tea in northern Thailand

island which first began to undergo demographic and cultural sinification only at the beginning of the Manchu period, whereas a newer Chinese republic now coexists on the Chinese mainland. Just as Formosa provided a safe haven for Míng dynasty loyalists from 1662 to 1683, when the mainland had been taken over by the Manchu dynasty, the island has been home to the original Republic of China ever since 1949, when the mainland was overrun by the communist rebellion.

After the Second World War, the emphasis was on exporting Formosan tea, and for about four decades many fine Formosan teas were exported, earning Táiwān a well-deserved reputation in faraway places for a wide array of aromatic and sophisticated teas. The legacy production of black tea, which still comprised an export volume of over 13,000 tonnes in 1965, dipped to 386 tonnes by 1976.[131] Since the late 1980s, the domestic demand has exceeded the domestic tea yield by such a large margin that Táiwān is very much a net importer of tea.

Because of the high domestic demand by a public of highly discerning tea consumers, from 1986 onwards Formosan tea exports have trickled down to just a very small stream for connoisseurs of Formosan tea, some of whom purchase their tea individually from large suppliers such as Ten Ren 天仁 Formosa. The Japanese are the principal importer of Táiwān tea, and Japanese tourists are the principal foreign buyers of tea in Táiwān. The native Formosan teas are of very high quality, and the complete varied spectrum of traditional Chinese tea production techniques are all employed.

A Formosan rendition of the renowned Dragon Well (*lóngjǐng* 龍井) tea, produced in the hills around West Lake, is produced in Taipei county

131 Denys Mostyn Forrest. 1985. *The World Tea Trade: A Survey of the Production, Distribution and Consumption of Tea*. Cambridge: Woodhead Faulkner (p. 62).

FIGURE 2.44
A tea roller of the older type from Táiwān in a small tea factory in northern Thailand

as San Sia Dragon Well. The famous Green Snail Spring (*bìluó chūn* 碧螺春) green tea from the Great Lake in Jiāngsū province has a more than worthy counterpart in the priceless San Sia Pilochun of Táiwān. Precious Eyebrows (*zhēnméi* 珍眉) and gunpowder tea (*zhūchá* 珠茶) have their Formosan green counterparts as well. The original Tung Ting (*dòngdǐng* 凍頂) oolong from the Bohea Mountains in Fukien now thrives in Táiwān as the High Mountain oolong of Formosa. Tea gardens can be found almost everywhere on Táiwān, but most of the production originates from the counties of Yílán 宜蘭, Hsinchu or Xīnzhú 新竹, Miáolì 苗栗, Yúnlín 雲林, Nántóu 南投, Jiāyì 嘉義 and Táidōng 臺東 and even from within the Táoyuán 桃園 city limits.

Formosa produces some of the finest teas in the world, and the famous Formosa oolongs are uniquely produced on the island. There are more than 8,000 factories and firms producing and processing tea on Táiwān, leading to an enormous diversity of teas for a highly sophisticated and demanding domestic market. Since the 1970s, the Taiwanese themselves consume over 85% of the oolongs produced on the island. Most Formosan oolong teas are today produced with *mochizuki* 望月 style tea rollers, in which the tea leaves are wrapped tightly in a spherical bag of cloth and rolled back and forth whilst some pressure is applied. The traditional *sokuzyū* 足揉 method of rolling the tea by foot was gradually replaced by the hand-driven tea rollers, kept in motion by turning a large wheel with a handle. First developed in Japan, these machines were introduced into Táiwān between 1912 and 1927, when the island was still ruled as a Japanese colony.

The construction of tea rollers began in Táiwān in imitation of the first few thousand Japanese devices that had been shipped to the island during these years. Modelled on improved Japanese prototypes available from the 1950s, the ironworks of the Li brothers began to produce Taiwanese

FIGURE 2.45
Newer tea rollers from Táiwān in use in the same tea factory in northern Thailand

tea rolling machines in the modern style from 1964. In the 1970s, these machines begin to operate automatically, and they have spread to the mainland and to Thailand.[132] In addition to their own Formosan green teas, Táiwān has since 1974 even produced Japanese style *sencha* by importing the Japanese green tea steaming technique. There was a brief *sencha* boom for the first ten years, and today four firms still produce *sencha*, and some of this *sencha* is still exported to Japan.

Pouchung (*bāozhǒng* 包種) tea is produced in the northern Táiwān county of Wénshān 文山. This type of tea has a stripy shape and is deemed to be green tea by some. In reality, Pouchung is lightly fermented, between 10% to 20%, unlike true green tea, which is completely unfermented. The Pouchung infusion is golden yellow, and the aromas are milder than in a full-blown oolong yet more floral than in green tea. The method of manufacturing Pouchung tea was first perfected in Fukien province in the early 19th century by Ông Gī Tîng 王義程, and Pouchung tea manufacture was introduced to Formosa by the tea merchant Ngôo Hok Láu 吳福老 in 1881. The manufacture of Pouchung tea is more elaborate than it is for oolong.[133] In making Pouchung tea, the flush undergoes an abbreviated withering, consisting of several minutes of solar withering followed by twelve to fifteen hours of indoor withering,

132 Nimoru Satoru and Goto Osamu. 2007. 'The present conditions and a new fact of *mochizuki*-style tea roller made in Japan in Taiwan: A study of an innovation of the tea industry', ICOS, 3, CH-P-005.

133 I. Tanabe. 1924. 'Tea industry in Formosa', pp. 110–118 in Abraham Arnold Lodewijk Rutgers, red., *Handelingen van het Thee-Congres met Tentoonstelling, gehouden te Bandoeng van 21 tot 26 juni 1924*. Weltevreden: G. Kolff & Co. (My special thanks go to my friend Jason Huang 黃宗富 of Taipei for helping me to identify the proper names that were given in a nipponified rendering by Tanabe.)

FIGURE 2.46
Round bags of tea leaves are rolled gently by machine for hours in order to attain the desired result

divided into four to five periods of agitation and rest. During the withering process, polyphenol oxidase activity begins, and ethylene production sets in. After withering, the tea is panned.

However, 90 % of the teas consumed domestically in Táiwān belong to one of three main varieties of oolong tea: Jade oolong, White Tip oolong and Amber oolong. Táiwān has exported both tea plants and tea masters to countries such as Vietnam, Thailand, Indonesia and even back to mainland China. Currently, Táiwān has an annual tea production of 20,000 tonnes, of which it exports 3,000 tonnes, whilst importing a further 13,000 tonnes. During the 1930s under Japanese rule, annual tea competitions were started in Táiwān. Since 1976, one of the biggest has been the annual tea competition of the Farmers Association at Lo̍k-kok (*Lùgǔ* 鹿谷) in Nántóu 南投 county, where some six thousand of the finest teas are evaluated each June.

In 2003, some 19,342 hectares were planted with tea in Táiwān, with the dominant tea growing areas being Taipei 臺北, Nántóu 南投 and Jiāyì 嘉義.[134] Tea is used in cosmetics, foods and everyday products in Táiwān. Bubble tea with tapioca balls called pearls, a colourful sweet and trendy tea drink, which has precious little to do with the tastes and aromas of traditional tea culture, is also a Taiwanese invention.[135] This section has taken us from the twilight of the Míng dynasty at the time of the Southern Míng resistance and across the Táiwān Strait to the island of Formosa. It is now time to bring our narrative back to the mainland where we left off, at the dawn of the Manchu dynasty.

134 Hsueh Fang Wang, Yung-Sheng Tsai, Mu-Lien Lin and Andi Shau-mei Ou. 2004. 'Comparison of bioactive components in GABA tea and green tea produced in Taiwan', *ICOS*, 2: 653.

135 Jackson Huang. 2001. 'Taiwan teas and the relationship with Japan', *ICOS*, 1 (IV): 53–54.

FIGURE 2.47
Jar in *Wǔcǎi* 五彩 porcelain with carp and waterweed motif from the reign of emperor Jiājìng 嘉靖 (*imperabat* 1521–1567), 36 cm in height
IMAGE COURTESY OF SOTHEBY'S, LONDON

The Manchu and the Colours of the Chinese Rainbow

The Manchu are a Tungusic people of the north. Yet the Jürchen clan that invaded Peking, subdued the Míng and established the Qīng 清 dynasty (1644–1912) had already been extensively culturally sinicised by the 17th century before they became the ruling house of China. The Manchu emperors, including Kāngxī 康熙 (*imperabat* 1661–1722) and Yōngzhèng 雍正 (1722–1735), were famous epicurean tea drinkers, and it was during Kāngxī's reign that the gold-inlay colour porcelain of Canton called *Guǎngcǎi* 廣彩 began to be used for tea vessels.

Emperor Qiánlóng 乾隆 (1735–1796) devoted over two hundred poems to tea, established the practice of the Xīnhuá palace tea party (*xīnhuágōng cháyàn* 新華宮茶宴), annually celebrated on the 3rd day of the Chinese New Year and held sixty times during the Manchu dynasty. Later, towards the end of the Qīng period, the empress dowager Cíxǐ 慈禧, who effectively ruled China from 1861 until her death in 1908, famously used to drink Dragon Well tea in the summer and Pǔ'ěr tea in the winter. The refinement of the Míng period in matters of tea did not go into decline during the Manchu period. Rather, tea culture was enthusiastically supported by the Qīng imperial court.

In 1735, a man named Lù Tíngcàn 陸廷燦, who served as a magistrate in Chóng'ān 崇安 county from 1717 to 1720, wrote the *Sequel to the Classic of Tea* (*Xù chá jīng* 續茶經), a highly artistic work that was closely modelled after Lù Yǔ's original. The *Sequel* was likewise divided into ten chapters, but thoroughly updated to reflect historical developments, both in tea practices and in aesthetic sensibilities. This book of the Manchu period was ten times the length of Lù Yǔ's original work.[136] Europeans first found out about tea towards the end the Míng period, but it was during the Manchu dynasty that the tea trade between China and the West developed and flourished. This trade culminated in the First and the Second Opium War, which were waged from 1839 to 1842 and from 1856 to 1860, both of which were more about tea than about opium, as told in Chapter Nine.

136 This work was rendered available in English by Jiāng Xīn 姜欣 and Jiāng Yí 姜怡 in 2009 (Jiāng and Jiāng 2009).

FIGURE 2.48
A vase with floral scroll design in Canton enamel, Hong Kong Museum of Art

During the Manchu dynasty, a system of classifying teas into six different colours arose. The same tea leaves from the very same tea bush can yield very different tastes and be worked into very different products depending on the way that the tea leaves are processed. Whereas the average tea drinker in the West divides tea into green tea and black tea, the Chinese have a more complex scheme of differentiating the various types of tea. At the most rudimentary level, the Chinese distinguish six basic colours of tea, which differ fundamentally in taste and aroma as well as in their therapeutic value. These colours are green, blue, red, yellow, white and black. These distinctions and the techniques by which they are produced are in most cases much older than the Manchu period, but the nomenclature codified at this time is still in use today.

What in Europe came to be referred to generically as Bohea tea is reputed to have been developed during the Míng dynasty (1368–1644) in Chóng'ān 崇安 county. Much of this once bucolic county in northern Fukien has now been swallowed up by today's Wǔyíshān 武夷山 city within the Nánpíng 南平 municipal region. Two colours of the Manchu period tea rainbow were essentially invented or at least refined and further differentiated during the Qīng period. These are the colours blue and red. In fact, the maritime trade with the West during the Manchu dynasty would be based prin-

cipally on the traditional staple of green tea and the new products which the Chinese had begun to classify as blue tea (*qīngchá* 青茶) and red tea (*hóngchá* 紅茶). Both of these new colours of tea were produced in the Bohea mountains (*Wǔyíshān* 武夷山) of Fukien. These mountains are called 'Bohea' in the native Chinese languages of Fukien. This local Hokkien pronunciation is romanised as *bú-î* in Pe̍h-ōe-jī 白話字 'pure speech transcription' and rendered as [bu ˥˧ i ˨˦] or [bu ˥ i ˨˦] in the notation of the International Phonetic Association.[137]

The first European traders imported both green tea and Bohea tea. A few Europeans were misled into believing that green tea and Bohea tea came from two different plants. One European who was convinced that two different species of tree were involved was François Valentyn. The distinction between what Valentyn called *Groene Thee* 'green tea' and what he referred to variously as *Boey Thee*, *Thee-Boey* or *Thee-Boewy* 'Bohea tea' was already widely recognised by European traders and scholars by the 1670s. Much of what was imported to Europe as Bohea tea at this time consisted of various types of the partially fermented tea that the later Qīng nomenclature would denominate as blue tea (*qīngchá* 青茶).

China produces over 900,000 tonnes of tea annually, and roughly 70% of this production is green tea, about 20% is black tea, which the Chinese call 'red tea', and a mere 10% of the production is devoted to other 'colours' of the rainbow. The colours of tea result from the way that the tea is prepared, whether the tea leaves are sun dried to fix in the 'blue' dark green hue of the tea (*shàiqīng* 晒青) or to stop the oxidation process by wok roasting in the 'blue' (*chǎoqīng* 炒青) or baking in the 'blue' (*hōngqīng* 烘青). Whereas green and yellow tea are not oxidised, white tea is essentially also an unoxidised tea but has, in the process of its manufacture, actually undergone a wee bit of oxidation. Blue tea is a large and heterogeneous category, and oolong teas can be anywhere from very slightly to fully oxidised, depending on the variety. Red and black teas generally tend to be fully oxidised.

Half a century after the Manchu dynasty, tea culture and other aspects of Chinese culture as well as scholarship on tea went into pathetic decline. The Chinese government maintained a monopoly over the entire tea industry from the 1950s until the 1970s. When Máo Zédōng implemented his five-year plan called the Great Leap Forward in 1958, collectivisation and the implementation of the agricultural policies of the Communist Party of China resulted in the Great Chinese Famine (1958–1962). In many places, the scourge of deforestation accelerated, and some productive tea gardens were likewise felled to make room for grain fields at the same time that large collectivised tea gardens were envisaged.[138] Chinese tea culture went further into decline during the Cultural Revolution (*gerebatur* 1966–1976). Ever more land was brought into tea cultivation, but the production per hectare dropped, and mainland China's tea production at this time stagnated at less than 10% of current levels.[139]

In 1978, Dèng Xiǎopíng 鄧小平 became the paramount leader of the country, and between 1979 and 1984 a new household contract system of tea cultivation was implemented, by which the central government decided what farmers were to grow and determined the quantity and price of agricultural products. From 1985, the agricultural sector was gradually liberalised, and the state-run economy began to be transformed into a market economy. Prices and quantity were decided by sup-

137 The two pronunciations with the differing tonal contours in the first syllable are given in the Amoy and Chinchew pronunciations respectively.

138 Frank Dikötter. 2010. *Mao's Great Famine: The History of China's Most Devastating Catastrophe, 1958–1962*. London: Bloomsbury.

139 Ming-Zhe Yao and Liang Chen. 2012. 'Tea germ plasm and breeding in China', pp. 13–68 in Chen, Apostolides and Chen (op.cit.); Frank Dikötter. 2017. *The Cultural Revolution: A People's History, 1962–1976*. London: Bloomsbury.

FIGURE 2.49 Blue and white Chinese lidded tea cup or *gàiwǎn* 蓋碗 of the type that came into vogue during the Míng dynasty

FIGURE 2.50 Polychrome Chinese lidded tea cup or *gàiwǎn* 蓋碗

ply and demand, and the tea industry in China came to reside mainly in the hands of the first generation to break free from the shackles of a state-run economy.[140] From December 1994, China began to conduct business overseas and allow tea to be exported freely.

From 1984, China began to privatise the tea industry, and the output increased rapidly. By 1990, the problem of tea scarcity in China had been solved.[141] Only in the past quarter of a century have studies of tea culture and tea cultivation and processing standards in mainland China recovered, attaining once again the standards of the Qīng period.[142] In the noughties, the Chinese government reduced taxes on tea to stimulate the tea industry.[143] Based on the 2011 statistics of the International Tea Committee, China in 2005 once again regained the status of being the world's largest producer of tea, finally outranking India. In 2010, China accounted for just over 35% of the world's total tea production. Tea plantations occupy 1.86 million hectares, which is nearly half of the world's total surface area under tea cultivation. With an output in excess of 1.4 million tonnes, China is the second largest tea exporter after Kenya, and the world's largest exporter of green tea.[144]

Yet the consumption of tea in China per person is risibly low, when considering that China is where tea as a beverage made its historical début. The reason for this is that good tea is dear, whilst the finest grades of tea in China are beyond the purse of the average Chinese wage earner. Therefore, hundreds of millions of Chinese tea drinkers today put a generous pinch of tea leaves into

140 Zhang and Hunter (2015) describe this generation as 'money-hungry' and paint a bleak outlook for the future of Chinese tea, with reduced diversity of teas, greater mechanisation and ecologically exploitative practices leading to ever more deforestation.

141 Wu Xiduan. 2004. 'Situation and projection in present China tea economy', *ICOS*, 2: 724–727.

142 Liu Feng and Cheng Qikun (2001).

143 Xiaochun Wan. 2004. 'Present production and research of tea in China', *ICOS*, 2: 43–46.

144 Zong-Mao Chen and Liang Chen. 2012. 'Delicious and healthy tea: An overview', pp. 1–11 in Chen, Apostolides and Chen (op.cit., p. 2).

FIGURE 2.51
A sturdy *blanc de Chine* tea mug or *chábēidài-gài* 蠶杯帶蓋, with the porcelain tea sieve removed and placed on top of the inverted mug lid.

a thermos flask with hot water in the morning, and then keep on drinking and replenishing the hot water on these leaves all day. About 80% of the caffeine contained in the tea leaves is leeched out into the water the first time. Much the same applies to other substances contained in the tea leaves. On the other hand, the tea drunk in China is far finer than what is commonly drunk in the West, and the numerous tea connoisseurs in China hold very high standards. In fact, the average Western tea drinker has little inkling of how the finest green teas of China might taste because such teas are hardly available in the West, and the cost of the finer and more expensive teas may also surprise the uninitiated Western buyer.

The original tea drinking vessel was a tea bowl or *cháwǎn* 茶碗, which recalls the days of yore when tea was drunk as a soup. This vessel is still used in Japan today for drinking powdered tea, but is now seldom used in China. An elegant way to drink tea that came into vogue during the Míng dynasty is to sip from a lidded bowl or *gàiwǎn* 蓋碗. This Chinese term can also denote a lidded soup bowl, but a specific style of lidded porcelain teacup gained popularity amongst tea drinkers in the Míng which consisted of three parts: a tea cup, its lid and a shallow circular porcelain pedestal upon which the cup rests. This dainty vessel is particularly suited for the drinking of green, white and yellow teas. The lid can be held in such a way whilst drinking so as to prevent tea leaves in the infusion from being imbibed.

The popular and more robust lidded tea mug (*chábēidàigài* 茶杯帶蓋), with a removable porcelain tea sieve that fits between the lid and the mug body, is a more recent Cantonese innovation. When the tea infusion attains the desired hue, the sieve containing the tea leaves can be removed and, in the more practical renditions of the lidded tea mug, be placed on the inverted lid, which serves as a stand to hold the sieve. More recent is the availability of such three-part lidded tea mugs in completely clear tempered glass, which allows the tea drinker to appreciate the colour of the infusion and observe the tea leaves unfold in the immersed sieve all the while without having to lift the lid and peak inside to ascertain whether or not the tea has attained the preferred intensity. Quite commonly though, tea in China today is simply drunk out of tea cup or glass *chábēi* 茶杯.

A relatively new development is the Chinese tea ceremony, which involves the use of an array of tiny sipping tea cups (*pǐnmǐngbēi* 品茗杯), at least three of them, as well as a strainer, a tea towel and a porcelain or bamboo tea scoop (*cháhé* 茶荷) for measuring out the right amount of tea to transfer

to the teapot. Most often a Yíxīng 宜興 teapot is used as well as tongs and a tea pick. All of these *chájù* 茶具 'tea implements'[145] are utilised on a wooden tea tray (*chápán* 茶盤) with a wooden lattice forming the upper surface in order to let the spilt and excess water leak through to the bottom part of the tray. Sometimes a circular or rectangular earthenware tea tray with drainage holes is used instead.

Whereas the Japanese ceremony is rooted in a ritualisation of the tea preparation in Zen monasteries from the Táng period and its further development in Japan, the Chinese tea ceremony was only innovated in the 18th century in the Teochew 潮州 [tio ˥ tsiu ˧] area, which lies between Canton and Fukien. The Chinese ritual is properly referred to as *gōngfū chá* 工夫茶 'artisanal tea' or 'making tea with skill', although the orthography *gōngfū chá* 功夫茶 'meritorious tea' is sometimes seen.

The canonical seven steps involve (1) preparing the wares and starting the fire, (2) preparing the tea leaves by separating out the finer grains from the larger leaves and placing the larger leaves at the bottom of the pot and the finer grains on top, (3) skilfully pouring the heated water into the teapot, (4) using the teapot lid to scrape away the resultant bubbly froth emerging from the pot, (5) replacing the lid and pouring hot water onto the teapot itself, (6) warming the cups by rinsing them with hot water, and (7) finally pouring the tea into the cups in an even manner so that no water is left in the teapot. The tea is drunk hot, and the cup's bottom is sniffed thrice for the fragrance. There are many variations on this procedure.

Some versions feature the innovated practice of 'rinsing' or 'washing' the loose tea leaves (*xǐ chá* 洗茶) by pouring boiling water onto them and then pouring it off. Unless the tea is dusty and dirty, this practice serves no purpose and represents an indefensible transgression against any good tea. This mime has nonetheless spread mindlessly in China today, even outside the context of the Chinese tea ceremony. The curious fact that such an egregious step as throwing out the first steeping could have introduced itself into the ceremony provides a striking example of some of the points which Frits Staal taught about the nature of ritual.[146] Rituals exist for their own sake and are more about the rules governing the performance than about the result or function of the actions.[147]

This odd practice of essentially rinsing the tea with hot water and discarding the first steeping, however fleeting, removes a significant portion of the natural caffeine and also a good amount of the flavour from the tea leaves. Chemists have measured and quantified what discerning tea drinkers already know, namely that a second infusion of green tea is markedly inferior to the first, and that there is little point at all to a third infusion brewed from the same green tea leaves.[148] Whilst some practitioners mindlessly go through the motions, the more knowledgeable tea dealers who do choose to follow this step in the ritual only delicately moisten the leaves and then pour off just a few drops.

At the same time, tea need not be steeped to depletion upon the first brewing if the leaves are

145 Wāng Fēng 汪鋒, a colleague of mine at Peking University, is fond of translating this expression into English as 'tea toys', in playful allusion to the Mandarin *wánjù* 玩具 'toys'.

146 Johan Frederik 'Frits' Staal. 1982. *The Science of Ritual*. Poona: Bhandarkar Oriental Research Institute; Johan Frederik Staal. 1989. *Rules Without Meaning: Ritual, Mantras and the Human Sciences*. Bern: Peter Lang.

147 As opposed to Staal's formalist framework, however, even wordless rituals need not be inherently meaningless. Rituals are mimeplexes, which may be imbued with symbolic significance and philosophical profundity, but tend to be socially parasitic in nature with many of their individual components being adventitious (George van Driem. 2015. 'Symbiosism, Symbiomism and the perils of memetic management', pp. 327–347 in Mark Post, Stephen Morey and Scott Delancey, eds., *Language and Culture in Northeast India and Beyond*. Canberra: Asia-Pacific Linguistics).

148 Jeehyun Lee, Delores Chambers, Koushik Adhikari and Youngmo Yoon. 2007. 'Flavour and volatile compound changes of green tea when infused multiple times', *ICOS*, 3, PR-P-116.

FIGURE 2.52
A personal *gōngfū* tea tasting set consisting of a slender aroma cup or *wénxiāngbēi* 聞香杯 and a tea sipping cup or *pǐnmǐngbēi* 品茗杯 in delicate pale green porcelain

promptly removed or the tea is promptly strained. The finest grades of Chinese green teas can actually be savoured for several infusions when the freshest tea leaves are knowledgeably prepared at precisely the right temperature by infusing them fleetingly for just the correct amount of time, which varies for each successive infusion. The tea is then promptly decanted through a sieve and afterwards poured into the sipping cups. The flavour of the tea then develops aromatically over several brewings. Such successive brewings of the most tender green teas are fleetingly short, however, and such fine tea is best savoured at a leisurely pace with good company.

An infusion of very fine Chinese green tea is only tinged with a faint hue, and an inexperienced tea drinker might at first mistake the infusion for plain water. The subtlety of the colour will not mislead a sophisticated tea drinker with a sensitive nose, however, who, upon imbibing, will be overwhelmed by a powerfully perfumed potion. Savvy tea mongers are not obsessed with the ritualistic form of the procedure, but with the gastronomical and olfactory results, and are able to eke out all of the flavour and slowly unfolding fragrances from a pinch of tea leaves by knowledgeable preparation and serving. Indeed, some Chinese tea merchants who prepare tea in this way assert that they are not practising the *gōngfū chá* ritual, reserving this term strictly to designate only the most canonical and stylised form of the procedure.

The *gōngfū chá* ritual involves time and effort and so for some evokes an aura of mystique, although the procedure lacks the style, symbolism and solemnity of the Japanese tea ceremony. In fact, the process is a somewhat messy affair by comparison, but the procedure is an ideal way for a tea merchant to conduct a tea tasting for potential buyers and a wonderful way to share fine tea amongst friends whilst enjoying each other's company and conversation. The ritual from Teochew 潮州 was popularised in the 1970s in Táiwān, where it became imbued with some of the philosophical and aesthetic motifs of the Japanese way of tea, or *chadō*, in the new tea art houses. After the Chinese economy was unshackled under Dèng Xiǎopíng 鄧小平 in 1979, this new ritual was exported back to the mainland, where *gōngfū chá* began to serve especially as a demonstration and sales gimmick, especially from 1993, when the Ten Ren tea company 天仁茶業 began to invest in the mainland, where they established themselves under the guise of the tea store chain Ten Fu Tea 天福茗茶.[149]

149 Lawrence Zhang. 2016. 'A foreign infusion: The forgot-

FIGURE 2.53 Tea sipping cups or *pǐnmǐngbēi* 品茗杯 and a sharing pitcher or *gōngdàobēi* 公到杯

A Taiwanese innovation in the *gōngfū* tea ritual from Teochew 潮州 was the use of a tallish slender aroma cup or *wénxiāngbēi* 聞香杯. Some employ a lidded tea bowl or *gàiwǎn* 蓋碗, a Míng period vessel, and then also sniff the inside of the lid. Another innovation is the tiny sharing pitcher or *gōngdàobēi* 公到杯, used for decanting the tea into the individual cups. Tea is often not prepared and served in such an elaborate gastronomical fashion, and not all who practise this art are equally adept. Such a ritual is suited to a formal tea tasting and also to a social gathering of ardent tea connoisseurs, but otherwise this procedure takes time and precludes many other activities. In recent years in Kūnmíng, Liú Dī 劉菂, who describes herself as 'the first tea ceremony artificer in China', has adapted this Teochew and Taiwanese ritual, and she nowadays performs her own variant of the Chinese tea ceremony using Pǔ'ěr tea.[150]

Some tea drinkers, both inside and outside of China, infuse their tea leaves multiple times, especially when it comes to fine expensive leaf teas. Several infusions are quite justified in the case of oolong teas, where the aroma evolves in the second and third infusion. There is no point to multiple infusions if the tea leaves are steeped so long that they are depleted upon the first steeping. Much depends on the type of tea, the quality of the tea, the quantity of the tea leaves used, the length of time that these leaves are allowed to steep and the mode of preparation. Obviously, less tea leaves are required when green tea is simply left in the infusion and allowed to steep to depletion upon the first steeping.

Both experience and practice are required, for it is quite possible utterly to spoil delicious, delicate and exorbitantly expensive tea through inexperienced and unknowledgeable preparation. The types of tea available within each of the six 'colours' in China are numerous, and each type comes in many quality classes or grades. Tea is highly diverse, and its preparation requires some skill and experience because there are so many sorts of tea.

ten legacy of Japanese *chadō* on modern Chinese tea arts', *Gastronomica*, 16 (1): 53–62.

150 Liú Dī. 2004. 'The value of Pu-erh tea ceremony: Contemporary graceful work', *ICOS*, 2: 694–697.

FIGURE 2.54 Like the Palaung, their close linguistic relatives on the Burmese side of the border, the Blang people on Bùlǎng mountain 布朗山 in Yúnnán produce tea, primarily Pǔ'ěr 普洱 tea. Here tea leaves are being parched in a wok, as described by Valentyn in 1726. In the manufacture of *lóngjǐng* 龍井 green tea at Hángzhōu 杭州, however, only the finest tips are used, and the parching procedure is more delicate and controlled than shown here.
PHOTO BY LUKE DUGGLEBY

In recent years, it has been the vogue in some quarters to compile a list of the 'ten most famous' teas of China. Inevitably different lists exist, although certain teas do tend to appear on most lists. No such artificial listing will be presented here. Instead a number of prominent Chinese teas are discussed in the remainder of this chapter, covering the famous names on most lists. In matters of tea, Lù Yǔ 陸羽 observed that 'the final assessment on the quality of any tea comes from actual sampling',[151] or, as the old English proverb goes, 'All the proofe of a Pudding is in the eating'.[152]

Chinese Green Teas

Green tea (*lǜchá* 綠茶) is produced by halting the fermentation process by arresting enzymatic activ-

151 Ukers (1935, Vol. I, p. 17), Jiāng and Jiāng (2009, Vol. I, p. 17), in Carpenter's translation: 'Its goodness is a decision for the mouth to make' (1974: 74).

152 William Camden. 1623. *Remaines concerning Britaine: But eſpecially England, and the Inhabitants thereof: Their Languages, Names, Surnames, Alluſsions, Anagrammes, Armories, Moneys, Empreſes, Apparell, Artillary, Wiſe Speeches, Prouerbs, Poeſies, Epitaphs. The third Impreſſion, Reviewed, corrected, and encreaſed.* London: Nicholas Okes for Symon Waterson (p. 266: 'All the proofe of a pudding, is in the eating'); William Camden. 1629. *Remaines concerning Brittaine: But eſpecially England, and the Inhabitants thereof: Their Languages, Names, Syrnames, Alluſsions, Anagrammes, Armories, Moneys, Empreſſes, Apparell, Artillerie, Wiſe Speeches, Prouerbes, Poeſies, Epitaphes. The Fourth Impreſſion, reuiewed, corrected, and increaſed.* London: Symon Waterson (p. 262: 'All the proofe of a Pudding is in the eating').

ity and oxidation. This is done by parching the tea leaves in a wok or by steaming them, a process that is called *shāqīng* 殺青 'killing the blue'. Whereas the Chinese colour term *lǜ* 綠 denotes a spring green, the term *qīng* 青 denotes blue, blue green or dark green, and 'killing' or fixing 'the blue' effectively means bringing the oxidising enzymatic activities to a halt so as to the fix the deep blue green colour of the leaves. If the tea leaves were just left to dry after picking, then the leaves and all of the substances contained in them would rapidly oxidise. The prompt intervention of parching or steaming prevents this from happening and so seals in all of the natural phytochemical wholesomeness of the leaves.

Many international tea companies and quite a few of today's tea entrepreneurs who venture to manufacture and market green tea have remained astonishingly oblivious to the crucial importance of 'killing the blue' promptly after picking. Moreover, many tea producers manifestly lack the requisite know-how and skill to carry out this procedure properly. Consequently, much tea that is billed and sold as green tea today in the West is not green tea. By contrast, 74% of the tea produced in China today is green tea.[153] Today green tea in individually packaged Lipton tea bags in the West is usually incompletely oxidised tea of abominable quality and usually does not qualify as green tea despite what is written on the label. However, the green tea in individually packaged Lipton tea bags in China is actually green tea, albeit of medium quality and, of course, shredded in the CTC manufacturing procedure to be put into tea bags. The mechanised 'cutting, tearing and curling' (CTC) of tea leaves by automated machine was first introduced in tea factories in British dominions in India, Ceylon and Africa in 1930.

Western tea drinkers today have in most cases never tasted fine Chinese green tea, and many would actually not know how to taste such tea and even what to taste for. An Occidental tea drinker only familiar with black tea and the mediocre or bogus green teas available in the West should have his green tea prepared for him by a professional green tea merchant upon a visit to China. An infusion of the finest Chinese green tea changes the colour of the water only a tinge. Too strong a steeping will not just be astringent, but will mask the delicate fragrances, the fine taste and the velvety texture of the young tea. Especially in the case of fine green teas made from just the tips, the palate of the Western tea drinker has generally been spoilt by the type of teas to which he has been exposed. Preparing the tea properly and recognising the different types of green tea and the different qualities within each type requires experience and practice. Care and proper storage matter a great deal to tea, even more so in the case of fine green teas. Green teas do not keep as well or as long as other teas. Upscale Chinese tea mongers often store their green teas in carefully regulated refrigerators that do not undercool the tea leaves. Fresh green tea must be drunk fresh, and this can only be appreciated by those who have had the benefit of being able to drink a good variety of the finest and freshest green teas.

Green tea is harvested principally in the spring. In China, the spring tea harvest is divided into three flushes or harvesting periods. The best flush, which yields the more tender green tea, is the early spring or Bright Future (*míngqián* 明前) pick, which takes place from late March until Pure Brightness (*qīngmíng* 清明), the day of the ancestral tomb sweeping festival and the fifth term of the twenty-four solar terms in the Chinese agricultural calendar, which takes place when the sun reaches the celestial longitude of 15°, roughly a fortnight after the vernal equinox. The next springtime flush is picked after Pure Brightness and takes place up until Millet Rain (*gǔyǔ* 谷雨), the latter being the sixth of the twenty-four solar terms, when the sun reaches the celestial longitude of 30°, around the 20th or 21st of April. The third and last springtime flush is the tea picked after Millet Rain until the Beginning of Summer (*lìxià* 立夏), which is the

153 Chen and Chen (2012) in Chen, Apostolides and Chen (op.cit., p. 2).

seventh solar term around the 6th of May, albeit still forty-five days before the summer solstice.

Many of the most famous Chinese green teas come from three provinces, Jiāngsū 江蘇, Zhèjiāng 浙江 and Ānhuī 安徽, situated around the mouth of the Yangtze. Green Snail Spring (*bìluó chūn* 碧螺春) is a green tea of Jiāngsū province harvested in the early spring and rolled into a tight spiral which looks like the meat of a snail that has been removed from its shell. The tea is traditionally cultivated on the Dòngtíng 洞庭 hills. In the Great Lake (*tàihú* 太湖), southwest of Sùzhōu 蘇州, there is an island and a peninsula jutting out into the lake next to this island. On the island stands the western Dòngtíng hill, and on the peninsula stands the eastern Dòngtíng hill. The western hill is inhabited by a large male Nāga, and the eastern hill by a great female Nāga. These two mythical serpents are said to cause flooding. The best tea is said to come from the eastern hill. This place name is reflected in the full name of the tea, *dòngtíng bìluó chūn* 洞庭碧螺春 'Green Snail Spring tea from the Dòngtíng hills'. In the local dialect, the tea used to be called *xiàshàrénxiāng*, 嚇煞人香 which meant something like 'wickedly frighteningly fragrant'. Emperor Kāngxī 康熙 (*imperabat* 1661–1722) is said to have found the original name disturbing and is credited with coining the current name.

Green Snail Spring is exceedingly tender and renowned for its delicate appearance, fruity taste, floral aroma and the downy white hairs on the buds. Today, Green Snail Spring is also grown in Zhèjiāng 浙江 and Sìchuān 四川 provinces. An exceedingly fine and fragrant Green Snail Spring, romanised alternatively as 'Pilochun', is grown in Táiwān 臺灣. Other green teas of Jiāngsū province include Rain Flower (*yǔhuā* 雨花), grown near Nanking 南京, Sparrow's Tongue (*quèshé* 雀舌), grown near Jīntán 金壇, and White Cloud (*báiyún* 白雲), grown around the Great Lake.

The famous Dragon Well (*lóngjǐng* 龍井) of Zhèjiāng is grown in the hills around West Lake (*xīhú* 西湖) near Hángzhōu 杭州, the capital city of the Southern Sòng dynasty. The freshly picked green leaves are pan fried by hand to 'roast the blue' (*chǎoqīng* 炒青).[154] Rubbing them around in a heated wok until the leaves are dry arrests all fermentation, protecting the healing phytochemicals from oxidising, sealing in all the natural goodness and giving the green leaves their distinctive flat appearance. Roasting the tea leaves in the wok is facilitated by the addition of a secret ingredient. The woks look dry and shiny, but a few drops of tea seed oil, which is solid at room temperature, forms an invisible layer on the inner surface of the wok. I have seen old men at Hángzhōu 杭州 with an alarmingly thick layer of callous on their right hand after years of pan frying tea leaves. Nowadays, young tea curers instead wear thick protective thermal gloves when swirling the leaves around in the wok.[155]

In 1726, François Valentyn provided a vivid description of the Chinese method of the wok roasting of the 'blue' or *chǎoqīng* 炒青.

> Daar na werpen zy die bladen in een yzeren zeer zuiveren gladden en blinkenden Schotel, die zy in Tsjina daar toe gieten. Deze werd zeer heet over 't vuur gemaakt; dog wat ſchuyns gezet, om dat zy die bladen met de handen gedurig moeten wryven en met een byzondere

154 Such tea terminology, provided here in Mandarin, was not universal. Samuel Ball (1848. *An Account of the Cultivation and Manufacture of Tea in China: Derived from Personal Observation during an Official Residence in that Country from 1804 to 1826: and illustrated by the best authorities, Chinese as well as European: with remarks on the experiments now making for the introduction of the culture of the tea tree in other parts of the world.* London: Longman, Brown, Green and Longmans, pp. 109–114) recorded a number of Cantonese terms used in the preparation of tea that are unknown in Mandarin, and some of these traditional Cantonese terms have been identified by Huáng (2000: 547, fn. 85), who notes that different terminologies appear to have been used in different Sinitic languages, all of which are increasingly under threat by the expanding influence of Mandarin, as propagated by the government in Peking.

155 English *wok* is from Cantonese *wok*[6] 鑊 [wɔːk ˨], whereas Dutch *wadjang* is from the Malay.

hand-greep, daartoe vereifcht, zoo lang roeren en wenden, tot dat zy flap werden; waar na zy die op zuivere matjens of iets anders leggen, daar zy die dan gedurig waeyen, om dezelve te verkoelen.

Koel zynde, werden zy van die matjens weer in korfjens geworpen, en daar in zoo lang gerold en gewreven, tot dat zy beginnen te krullen, dan werpen zy die weer in eene zuyvere Schotel, die maar matig heet gemaakt werd, in welke zy die bladen weer, gelyk bevorens, met de handen roeren, zoo lang tot zy eenigzins hard beginnen te werden, waar na zy die weer op eenige matjens leggen, verkoelende die, gelyk bevorens, met een waeyer.

Na dat zy nu weer koud geworden zyn, werden die weer in een heet gemaakten Schotel geworpen, daar weer geroerd, daar na weer verkoeld, en dan al weer in een vierde Schotel, dog met dat onderfcheid daar in geworpen, dat de derde en vierde by trappen minder heet, dan de eerfte, gemaakt werden, al het welke met veel voorzigtigheid, opmerking, en met een byzondere behandeling daar toe vereyfcht, en een yder niet eigen, gefchieden moet.

Dus nu bereid zynde, ftorten zy die in verglaafde potten, die zy dicht toefluiten, en dus 16 dagen laten ftaan, waar na zy die weer openen, leezen'er dan de kleenfte, teederfte, en kragtigfte Thee-bladen, die zy zeer wel kennen, uit, en werpen die dan in een vyfde Schotel als de voorige, na welke behandeling die Thee, dicht gefloten zynde, jaren lang duuren, en alomme verzonden kan werden.[156]

Afterwards they toss the leaves in a very clean smooth glistening iron wok that they manufacture in China especially for that purpose. This is intensely heated above a fire, but held a bit at an angle because they have to keep rubbing about the leaves with a special grip of the hand required to perform the activity, and then they continue to stir and turn them about until they become pliable, after which they are laid on clean mats or something comparable, where they are assiduously fanned until cooled.

After they have cooled off, they are again tossed into little baskets in which they are rolled and rubbed until they begin to curl, after which they are again tossed into a clean wok, which has been only moderately heated, in which they once again stir about the leaves in the same fashion as before, just as long as it takes for them to begin to harden slightly, after which they are laid on several mats again, where they are again cooled, as before, with a fan.

After they have been cooled off, they are once again tossed into a heated wok, then again heated, then again allowed to cool off, and then in a fourth wok, the only difference being that the third and the fourth wok are not heated as intensely as the first wok, and all of this activity must be performed with great care, attentiveness and with a required special handling, of which not just anyone is capable.

After the tea leaves have been prepared in this way, they are poured in glazed jars, which they seal firmly and allow to rest for 16 days, after which they are opened. Then they select

156 François Valentyn. 1726. *Oud en Nieuw Ooft-Indiën, vervattende Een Naaukeurige en Uitvoerige Verhandelinge van Nederlands Mogentheyd in die Geweften. Deel IV: Befchryving van Groot Djava, ofte Java Major, behelzende een zeer fraaje Landbefchryving van dit magtig Eyland, benevens een aanwyzing der Landen onder den Keyzer van Java, onder den Koning van Bantam, onder Soerapati, en den Prins van Balamboang, behoorende, met de Zaaken tot alle die Vorften betrekkelyk, en voornamentlyk een Verhaal van het Koninkryk Jakatra, of van de Landen onder de E. Nederlandfche Maatschappy behoorende; mitsgaders een omftandige Befchryving der Stadt Batavia, haare Verovering, en Grondvefting, benevens de Levens der Opperlandvoogden van Indien, als ook een Befchryving van het Nederlands Comptoir in Suratte, en van de Levens der Groote Mogols; mitsgaders een Verhaal der Zaaken van China, nevens een Befchryving van 't Eyland, Formofa, ofte Tayouan, en de Zaaken daar toe behoorende; waar agter gevoegd zyn des Schryvers Uyt- en 't Huys-Reyzen, met verfcheide Teekeningen, en Landkaarten, daar toe dienende.* Dordrecht: Joannes van Braam, and Amsterdam: Gerard onder de Linden (*Derde Boek: Befchryvinge van den Handel, en Vaart der Nederlanders op Tfjina*, blz. 14–15).

FIGURE 2.55
Large Jūn 鈞 ware bowl with fine craquelure, Yuán dynasty, 18.2 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

> the smallest, most tender and most potent tea leaves which they are masters in being able to recognise, and then toss these into a fifth wok and do as before, after which treatment the tea, properly sealed, can last for years and be sent anywhere.

This technique is still in use today for Dragon Well tea, but today many Chinese green teas are cooked in specially designed cylindrical ovens with the tea leaves placed inside on racks. These ovens gently roast the tea just in order to stop the oxidation process, and some such ovens can tumble or rotate. For most of the history of tea, however, such sophisticated mechanised contraptions had not yet been developed. Manual skills, therefore, and tea know-how had to be finely honed. Another method to stop the oxidation was steaming, and this technique would be utilised later, particularly in Japan.

Another famous green is gunpowder tea, which consists of tightly rolled pellets of small leaf green tea. The Chinese name *zhūchá* 珠茶 'pearl tea' was rendered rather literally into French as *thé perlé*,[157] which is not to be confused with the modern *thé aux perles* or bubble tea. The oldest Western name for this variety of tea is Dutch *Joosjes*, by which name this tea was known to seamen and merchants of the Dutch East India Company. The method of rolling each leaf up into a small round pellet is most often applied to green or oolong tea. Gunpowder tea production dates back to the Táng dynasty (618–907), and was introduced to Táiwān in the 19th century.

The leaves are withered, steamed, rolled and then dried. Although the individual leaves used to be rolled by hand, only the highest grades are still shaped manually. Most gunpowder tea today is rolled by machines. Rolling renders the leaves less susceptible to damage and allows them to retain more of their flavour and aroma. The best known gunpowder tea is perhaps Tranquil Water Pearl tea (*píngshuǐ zhūchá* 平水珠茶), a green tea from Zhèjiāng. Green gunpowder tea has for centuries been consumed voraciously by Morocco, where it is combined with fresh mint to make the famous sweetened Moroccan green mint tea, customarily prepared by the head of the family or the eldest son.

In addition to the fabled Dragon Well and gunpowder teas, other green teas from Zhèjiāng province include Beneficial Brilliance (*huìmíng* 惠明), a tea named after a temple in nearby Jǐngníng 景寧, Dragon Peak (*lóngdǐng* 龍頂) from Kāihuà 開化 county, Flower Peak Cloud Mist (*huádǐng*

157 Alexandre Dumas. 1873 [posthumous]. *Grand dictionnaire de cuisine*. Paris: Alphonse Lemerre (p. 1026).

FIGURE 2.56
Enamelled Jūn 鈞 stoneware bowl, Sòng dynasty, 14.5 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

yúnwù 華頂雲霧) from Tiāntái 天台 mountain and Blue Peak (*qīngdǐng* 青頂) from Tiānmù 天目.

Yellow Mountain's Downy Summit (*huángshān máofēng* 黄山毛峰) is a green tea produced on Yellow Mountain (*huángshān* 黄山) in the province of Ānhuī. The 'downy summit' is an allusion to the small white hairs which cover the leaves. Only the bud and the one leaf next to the bud are picked for Downy Summit. Ānhuī boasts a great many more varieties of green tea, including Hyson (*xīchūn* 熙春) or 'splendid spring', which is actually a fairly standard type of green tea produced in many parts of China. The famous Misty Inner Blue (*wùlǐqīng* 霧裡青) has been known since the Sòng dynasty. Lù'ān Melon Seed (*lù'ān guāpiàn* 六安瓜片) has tiny oval leaves shaped like melon seeds and is produced in the area around the city of Lù'ān 六安. Big Square (*dàfāng* 大方) has pointy flat leaves like those of Dragon Well tea. The distinctive new variety, Monkey Chief (*hóukuí* 猴魁) from Tàipíng 太平 county, has two straight leaves clasping a furry whitish bud. The tea Village Green (*túnlù* 屯綠) is from Túnxī 屯溪 district, and Fire Blue (*huǒqīng* 火青) is from Jīng 涇 county.

South of the green tea producing provinces of Jiāngsū, Zhèjiāng and Ānhuī lie the provinces of Jiāngxī 江西 and Fukien. In Jiāngxī, the green tea named Cloud Mist (*yúnwù* 雲霧) is grown on Mount Lú in the area of Jiǔjiāng. Two other famous green teas from the province are Precious Eyebrows or 'Chun Mee' (*zhēnméi* 珍眉) and Dog Bull Brain (*gǒugǔnǎo* 狗牯腦). Fukien produces its own variety of Downy Summit (*máofēng* 毛峰) as well as the green teas Jade Sword (*cuìjiàn* 翠劍) and Snow Bud (*xuěyá* 雪芽). Gùzhǔ Purple Bamboo tea (*gùzhǔ zǐsǔn chá* 顧渚紫筍茶) is a green tea from Chángxīng 長興 county that once served as an imperial tribute tea and was already famous in the time of Lù Yǔ, who spent time on Gùzhǔ hill in 760. Rugged Mountain Buddha tea (*pǔtuóshān fóchá* 普陀山佛茶) is a green tea traditionally grown and processed by Buddhist monks around the monasteries of the island of Pǔtuó Mountain off of the coast of Zhèjiāng.

A number of green teas are produced nearer to the old heartland of tea, in the province of Sìchuān. Mount Méng Sweet Dew (*méngdǐng gānlù* 蒙頂甘露) is an exquisite green tea grown on misty Mount Méng (1456 m), just beyond the eastern edge of the Tibetan Plateau in what today is northwestern Sìchuān near the modern-day city of gYag-rña གཡག་རྔ་ [jāŋā], named Yǎ'ān 雅安 in Chinese but formerly called Yǎzhōu 雅州. This mountain used to yield imperial tribute tea for various periods from 724 to 1911, but has over time produced a range of teas from fine green leaf tea to compressed brick tea.

Another green tea produced on the same mountain consists of tiny delicate green tea leaves and is called Mount Méng Stone Flower (*méng-*

dǐng shíhuā 蒙頂石花). Other green tea varieties produced on Mount Méng are Ten Thousand Springs Silver Leaf (*wànchūn yínyè* 萬春銀葉), Jade Leaf Long Spring (*yùyè chángchūn* 玉葉長春) and Mount Méng Snow Bud (*méngdǐng xuěyá* 蒙頂雪芽). Bamboo Leaf Blue (*zhúyèqīng* 竹葉青) is grown and produced on Mount Éméi 峨嵋 (3099 m), a peak sacred to Chinese Buddhists. Another Sìchuān green tea is Numerously Beautiful (*bǎiměi lǜchá* 百美綠茶). In addition to these famous Sìchuān green teas, much Dragon Well tea is produced in Sìchuān that is marketed as if it were from Zhèjiāng.

Further afield, green teas are also produced in sundry provinces of the interior which are not usually associated with green tea. A green called Transcendent Fine Hairs (*xiānháo* 仙毫) is manufactured in Hànzhōng 漢中 in Shǎnxī 陝西 province, and a steamed green tea called Jade Dew (*yùlù* 玉露) is also manufactured in Húběi 湖北 province, prepared in the same shaded fashion as Japanese *gyokuro*. Near the city of Xìnyáng 信陽 in Hénán 河南 province, a green tea is grown which is called Fur Points (*xìnyáng máojiān* 信陽毛尖), and another Fur Points green tea (*dūyún máojiān* 都匀毛尖) is produced around the city of Dūyún in Guìzhōu 貴州 province. Yǒngchuān Luxuriant Bud (*yǒngchuān xiùyá* 永川秀芽) is a variety of green tea produced in Yǒngchuān district near Chóngqìng.

White Teas and Albino Cultivars

White tea (*báichá* 白茶) is one of the six types of tea distinguished by the Chinese classificatory schema which has been in use since the Qīng 清 dynasty (1644–1912). This classification into six colours is therefore not very old. In fact, some claim that white tea itself appears to be a relatively recent innovation, no more than a few centuries old. As opposed to what a botanically uninformed subset of Westerners thought well into the beginning of the 19th century, the tea plant itself is not the prime determinant of the type of tea obtained. Rather the major determinant is the human craftsmanship which determines whether a tea will be white, green, blue, red, yellow or black.

Chinese tea scholars believe that the technique of producing white tea was most probably developed during the Míng dynasty.[158] Yet initially white tea may not have been distinguished very strictly from green tea, or perhaps the Chinese merchants did not yet in 1726 feel the need to go to great pains to make the distinction understood to foreigners, for François Valentyn reported that the Chinese equated the two and referred to green tea as *de witte of groene Thee* 'white or green tea' or *de Groene Thee, die zy ook wel de witte Thee noemen* 'green tea, which they also call white tea'.[159] In any event, during the Qīng the two terms were codified as designating separate colour categories of tea.

The defining set of techniques for the manufacture of white tea entails that young tea buds are only slightly oxidised. Unlike green tea, white tea is not parched or rolled, but dried quickly at a high temperature by baking so that the tender young buds are left intact and do not lose their white fuzz. Traditionally, white tea used to be sun withered in shallow baskets for one to three days, a method still practised today.

Nowadays, however, some producers wish to exercise greater quality control by eliminating the unpredictability of the elements. Instead, therefore, they subject the softened buds and leaves to an artificial flow of warm air. Then the sun-withered or air-warmed leaves are piled up for fermentation for one hour to several hours. When the desired degree of oxidation has taken place, the tea leaves are baked dry at a low temperature. The leaves are always treated gently so that they are not broken because an essential trait of good white tea is that the cellular structure remains largely intact.

These procedures are a specialty of Fukien 福建 province, particularly in Fúdǐng 福鼎 and Zhènghé 政和 counties. The famous White Fur Silver Needle (*báiháo yínzhēn* 白毫銀針) is pro-

158 Huáng (2000: 551).

159 Valentyn (1726, *Derde Boek*, blz. 14).

duced from just the buds of the first flush, whereas the famous White Peony (*bái mǔdān* 白牡丹) is produced from the two top leaves and the bud. Other exquisite Silver Needle (*yínzhēn* 銀針) teas are produced in other areas, such as Gǔshān 鼓山 on the southern part of the island of Formosa, likewise produced from just the buds of the tea plant harvested during the first flush. White teas are also grown in Darjeeling, northern Thailand and eastern Nepal.

Steeped at 80°C, white teas yield a pale yellow liquor, which may glitter because of the white hairs in the liquid. Older white tea or strongly brewed white tea may yield an orangish liquor. The best tea is plucked in the morning after the sun has dried the dew, and the first flush is the optimal harvest for producing white tea. Another white tea, Long Life Eyebrow (*shòuméi* 壽眉), grown both in Fukien and in Guǎngxī 廣西 province, is darker because it is harvested later. The liquor may have a deep golden colour and aromatic components that are more reminiscent of oolong tea. An even finer variety in the same genre is known as Tribute Eyebrow (*gòngméi* 貢眉).

During excavations carried out from 2006 to 2009 at Xī'ān 西安, archaeologists discovered thousand-year-old processed tea leaves and tea ware in Northern Sòng dynasty graves from the 11th century. The tombs belonged to the aristocratic Lǚ 吕 clan from Lántián 藍田, just outside of modern Xī'ān. Four men of the Lǚ clan held ministerial positions, and it is within such graves that the discovery was made of about thirty dried processed tea leaves. The low degree of humidity prevented decay and preserved the leaves. In addition, bronze, porcelain and stone vessels for drinking tea were found in the tombs.

In Sòng aristocratic circles, both powdered tea (*mǒchá* 抹茶) and loose leaf tea (*sànchá* 散茶) were popular, but it was only during the Míng period that loose leaf tea became the prevalent way of drinking tea. The appearance of the tea leaves found in the tombs has suggested to some that they had been processed like white tea. Instead, the apparent anachronism of the discovery may show that some green tea produced during the Sòng resembled what today is denominated as white tea, and that white tea may indeed have existed for much longer and originally just have been an unnamed subcategory of green tea that may have gone unnamed until the late Míng or until the Qīng dynasty penchant for grouping tea into well defined colour categories.

Nowadays there are also 'white teas' that are strictly speaking not white teas at all, but essentially green teas made from albino strains of tea. Such strains were apparently first discovered in the 1980s both in Japan and China. In Japan, where such albino strains are called *hakuyō cha* 白葉茶 'white leaf tea', two albino tea cultivars, *hoshino-midori* 星野緑 and *kiraka* きら香, were registered in 1981 and 2006 respectively. In China, Ānjí white tea (*ānjí báichá* 安吉白茶) is made from a new breed of tea that was first detected in 1982. The new cultivars are bred from natural albino mutants of tea plants that arose through a cold-sensitive mutation in the Yangtze delta region, whereby the plants turn a whitish colour at temperatures below 23°C. When picked in the spring, these teas yield 'white' green teas, whereas the summer harvest yields just green tea. The narrow leaves are yellow in colour and have a recognisable fold along the length of the leaf. The Tiānmù Lake white tea (*tiānmùhú báichá* 天目湖白茶) from Jiāngsū province is a green tea made from one of these albino cultivars near the famous Tiānmù Lake, where Lù Yǔ once wandered.

The first scientific report on albino tea cultivars was the description of the two Chinese cultivars *xiǎo xuěyá* 小雪芽 'little snow bud' and *báiyè 1* 白葉 1 'white leaf № 1', which was published in 2006.[160] The leaf colour of these two Chinese albino tea cultivars is whitish yellow, and their catechin content is lower, whilst their free amino acid content is much higher. Particularly

160 Y.Y. Du, Y.R. Liang, H. Wang, K.R. Wang, J.L. Lu, G.H. Zhang, W.P. Lin, M. Li and Q.Y. Fang. 2006. 'A study on the chemical composition of albino tea cultivars', *Journal of Horticultural Science and Biotechnology*, 81 (5): 809–812.

FIGURE 2.57
Jūn 鈞 ware bowl with azure to lavender glaze and mushroom tone rim, Sòng dynasty, 22.5 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

theanine is abundantly present in the leaves, more so than in any normal green tea cultivar. Six out of eighteen amino acids occur at higher levels in albino mutants than in any normal green tea cultivars, whereas four occur at lower levels. The temperature-sensitive tea cultivar *xiǎoxuěyá* produces an albino seedling below 20°C, at which temperatures the genes coding for chlorophyll a/b binding proteins, rubisco activase and terminal oxidase were suppressed, whilst the activity of violaxanthin de-epoxidase was reversed. These responses affected carotenoid biosynthesis and chloroplast microstructure.[161]

Subsequent analysis of the four Japanese albino cultivars in 2010 found similar results, with the free amino acid content being twice as much in the albino cultivar tea as in the popular *yabukita* 藪北 (やぶきた) cultivar. Two Japanese cultivars from albino strains are also known locally in Shizuoka prefecture as *morokozawa* 諸子沢 and *yamabuki* 山吹 (やまぶき). In the cultivar *morokozawa*, the albino trait is expressed in response to strong sunlight rather than in response to cold. In China, other new albino cultivars include *qiānnián xuě* 千年雪 'millennium snow' and *sìmíng xuěyá* 四明雪芽 'Sìmíng snow bud'.[162]

In recent years, a number of studies have appeared in Chinese on the three albino strains *qiānnián xuě* 千年雪 'millennium snow', *huángjīn yá* 黄金芽 'gold bud' and *yùjīnxiāng* 鬱金香 'tulip'.[163] Geneticists working with the albino tea cultivar *yùjīnxiāng* have discovered 1,196 differentially expressed genes that affect chloroplast organisation and result in the enhanced abundance of chlorophyll and carotenoids under shaded lighting conditions. Such albino species evidently respond to strong lighting as if undergoing severe stress and thus preferentially accumulate more effective antioxidants that play a role in protecting the plant from strong sunlight, particularly the flavonoid quercetin and the carotenoid zea-

161 Y.Y. Du, C. Lin, J. Jin, J.H. Ye, J.L. Lu, J.J. Dong and Y.R. Liang. 2007. 'Studies on gene expression and chloroplast structure in albino tea', *ICOS*, 3, PR-P-008.

162 Aya Kunihiro, Takashi Ikka, Toshikazu Suzuki, Yoriyuki Nakamura and Akio Morita. 2010. 'Chemical composition of the first crop of "white leaf tea" plants in Japan', *ICOS*, 4, PR-P-11; K.R. Wang, Y.Y. Du, S.H. Shao, C. Lin, Q. Ye, J.L. Lu and Y.R. Liang. 2010. 'Development of specific RAPD markers for identifying the albino tea cultivars *qiānniánxuě* and *xiǎoxuěyá*', *African Journal of Biotechnology*, 9 (4): 434–437; Takashi Ikka, Aya Kunihiro, Megumi Ohshio, Eiji Kobayashi, Toshikazu Suzuki, Yutaka Koizumi, Yoriyuki Nakamura and Akio Morita. 2013. 'Chemical and physiological analysis of the high amino acid containing tea "white leaf tea" in Japan', *ICOS*, 5, PR-S-5.

163 For example, Wáng Kāiróng 王開榮, Dù Yǐngyǐng 杜穎穎, Lǐ Míng 李明, Liáng Yuèróng 梁月榮 and Lù Jiànliáng 陸建良. 2007. 白化茶樹特異性 RAPD 分子標記研究 'Báihuà cháshù tèyì xìng RAPD fēnzǐ biāojì yánjiū' ["Research on specific DNA molecular markers in albino tea cultivars by RAPD analysis"], *Zhèjiāng Nóngyè Kēxué* 浙江農業科學, 1 (1): 1–55.

FIGURE 2.58
A Jiàn 建 ware tea bowl with iridescent silvery rabbit fur striations moving down over a lustrous black glaze, with a bound metal rim, Southern Sòng dynasty, 12 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

xanthin. Albino cultivars grown in bright sunlight also exhibit increased kæmpferol levels.

The enhanced production of quercetin rather than catechin biosynthesis turns out to be positively correlated with the enhanced transcription of flavonol synthase, flavonone hydroxylase and flavonol hydroxylase, whereas the activity of leucoanthocyanidin reductase, anthocyanidin reductase and anthocyanidin synthase, which are involved in catechin biosynthesis, is suppressed. In the case of regular tea cultivars, the tea trees produce more theanine and more galloylated catechins, viz. epigallocatechin gallate (EGCG) and epicatechin gallate (ECG), and less non-galloylated catechins, viz. epigallocatechin (EGC) and epicatechin (EC), when they are shaded than when they are scorched by the sun. However, the production and the relative abundance of catechins and theanine in albino cultivars do not appear to be as significantly different, whether the plant is shaded or scorched by the sun.[164]

164 Guo-Feng Liu, Zhuo-Xiao Han, Lin Feng, Li-Ping Gao, Ming-Jun Gao, Margaret Y. Gruber, Zhao-Liang Zhang, Tao Xia, Xiao-Chun Wan and Shu Wei. 2017. 'Metabolic flux redirection and transcriptomic reprogramming in the albino tea cultivar 'Yu-Jin-Xiang' with an emphasis on catechin production', *Nature Scientific Reports*, 7: 45062 <doi: 10.1038/srep45062>.

Chinese Yellow Teas

Yellow tea (*huángchá* 黄茶) is a partially oxidised tea. The preparation of yellow tea resembles that of green tea, but the drying phase is slower. The tea leaves are allowed to ferment for up to three days, piled up in damp heaps in an enclosed space. This process of yellowing (*mènhuáng* 悶黄) is unique to yellow tea. The procedure can vary in terms of the intensity and the duration of exposure to moisture, yielding a variety of different yellow teas. Yellow teas undergo a 20 % to 30 % fermentation and acquire a yellowish green appearance. Their thick vegetal fragrance differs markedly from that of white or green teas. Yellow teas are mellower, and their liquor is a pale yellow.

Yellow tea is produced especially in the provinces of Ānhuī 安徽 and Húběi 湖北, and the manufacture of yellow tea may have already been practised at the time of the Táng or Sòng dynasties.[165] Tea scholars are not unanimous on the issue, and in this context it is helpful to keep in mind that, just as in the case of white tea, various varieties of unfermented or lightly fermented tea might originally not have been so strictly categorised until the Qīng dynasty predilection for classifying tea into six well defined colour categories.

Sovereign Mountain Silver Needle (*jūnshān yínzhēn* 君山銀針) is a yellow tea cultivated on the

165 Huáng (2000: 552).

Jūnshān peninsula across the water from Yuèyáng 岳陽 in Húnán 湖南 province. Huòshān Yellow Buds (*huòshān huángyá* 霍山黄芽), a famous yellow tea with a slightly peppery flavour, grown on Mount Huò 霍 in Ānhuī 安徽 province, once served as an imperial tribute tea during the Táng dynasty. Another former Táng imperial tribute tea, Mount Méng Yellow Buds (*méngdǐng huángyá* 蒙頂黄芽) is a fine yellow tea from Mount Méng 蒙 in Sìchuān province, made from just one bud and one leaf. Its roasted, nutty taste and golden liquor are reminiscent of Dragon Well tea, but this tea is smoother in that it lacks astringency. Ostensibly only young shoots from the upper slopes of Mount Méng are plucked in late March to make Mount Méng Yellow Buds.

A number of minor yellow teas are no less exquisite for their rarity. Big Leaf Blue (*dà yè qīng* 大葉青) from Canton 廣東 province is a yellow tea made from a local Cantonese leaf varietal, harvested before Pure Brightness (*qīngmíng* 清明). North Harbour Fur Points (*běigǎng máojiān* 北港毛尖) is a yellow tea from Běigǎng 北港 near Yuèyáng 岳陽 in Húnán 湖南 province. Silver Monkey (*yínhóu* 銀猴) is a rare yellow tea with a floral nutty flavour, produced from a bud and one leaf in Sōngyáng 鬆陽 county of Zhèjiāng 浙江 province. Yellow Broth (*huángtāng* 黄湯) is another rare yellow tea from Zhèjiāng. Yellow Big Tea (*huáng dà chá* 黄大茶) from Ānhuī province is made from a generous pluck of a bud and three to four leaves from a big-leafed varietal. Yellow Little Tea (*huáng xiǎo chá* 黄小茶) is likewise from Ānhuī, but this yellow tea is made only from a bud and two leaves.

Blue Teas, Swarthy Dragon and Rock Teas

Blue tea or *qīngchá* 青茶 is lightly fermented or partially oxidised tea. The name blue tea is perhaps unfamiliar to many English speakers. Yet French tea connoisseurs are quite familiar with the term *thé bleu*. The most famous type of blue tea is oolong tea (*wūlóng chá* 烏龍茶), which literally means 'swarthy dragon tea'. It is sometimes claimed that oolong tea was invented by trial and error, perhaps in Fukien, as an attempt to improve the characteristics of *song-lô* 鬆羅 [sɔŋ ˧ lo ˧˩] tea at the beginning of the Qīng dynasty,[166] whereas others even claim that oolong tea might have been developed as early as the 16th or 17th century during the Míng dynasty.[167] However, the term *oolong* is only first mentioned as the name of a specific tea in 1857, by Shī Hóngbǎo 施鴻保 in his *Miscellanous Notes on Fukien* (*Mǐn zá jì* 閩雜記). Shī observed that south of the Bohea mountains an excellent tea named *wūlóng* 烏龍 'swarthy dragon' was produced at Shāxiàn 沙縣. The name soon began to be used as a generic term for fragrant lightly fermented tea amongst tea traders in Formosa in the 1860s.[168]

This type of tea is pan fried or baked to stop the fermentation process, but the leaves are only put into the wok for parching after the edges of the fermenting leaves have begun to turn russet whilst the central portion of the leaf is still green. Blue tea is therefore in most cases partially oxidised. The carefully controlled process of fermentation allows the tea to develop a number of floral fragrances which are absent in green tea. Blue teas cover a spectrum from very lightly fermented teas to more heavily fermented blue teas, but also includes some completely oxidised teas. When talking about blue teas or oolongs, therefore, it is useful to distinguish between light and dark Chinese oolongs, fragrant Formosan oolongs and fully oxidised rock teas. At least, the first two varieties of these three kinds of blue tea appear to have been developed principally during the Manchu period.

Oolong teas are made from big, fully developed leaves, which are kneaded into the shape of a dragonfly's head and have a dark green colour. When brewed, the liquor is amber in colour. Individual leaves of oolong tea are often rolled up into

166 Zijin Zhan and Biao Xu. 2004. 'The origin of oolong tea', *ICOS*, 2: 673–675.

167 e.g. Yokichi Matsui. 2004. 'The origin of oolong tea', *ICOS*, 2: 669–672; Yokichi Matsui. 2007. 'The historical background of oolong tea origin', *ICOS*, 3, CH-P-002.

168 Huáng (2000: 541).

FIGURE 2.59
A Jiàn 建 ware tea bowl with brown rabbit fur markings radiating downward from the subtly waisted mouth across the bluish black lustre of the blackware glaze, Sòng dynasty, 12 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

a small round pellet. This way of shaping tea originated with green gunpowder tea during the Táng. Rolling the tea leaves renders them less prone to breakage and enables them to retain their flavour and aroma better. The characteristic bouquet of fragrances which are exuded by fine oolong teas develops during the finely tuned withering process. The enzymatic activity of polyphenol oxidase yields ethylene and thereby sets into motion a series of chemical processes which produce an array of aromatic compounds. This process of controlled withering is arrested when the tea is panned. One study suggests that the aromatic properties of oolong tea are retained, and its fragrance enhanced when the tea is produced at an optimal relative humidity of 75 %.[169]

The most famous variety of oolong tea is no doubt the Iron Avalokiteśvara (*tiě guānyīn* 鐵觀音), which is produced in Ānxī 安溪 county, north of Amoy 廈門 and west of Quánzhōu 泉州 in Fukien province. This type of tea was only innovated at some time during the Qīng 清 dynasty (1644–1911), some claim not until the 19th century. The tea was dedicated to the *bodhisattva* Avalokiteśvara अवलोकितेश्वर, who is called Guānyīn 觀音 in Chinese and who in China has adopted a female aspect, whereas this *bodhisattva* is still male in India and in Tibet, where he is known as ḥPhags-pa sPyan-ras-gzigs འཕགས་པ་སྤྱན་རས་གཟིགས་ [p^{h}āpā tɕẽ̄-rēsī]. The epithet *tiě* 鐵 'iron' is a reference to the metallic sheen of the processed tea leaves. The tea leaves are gently rolled into tiny nuggets which unfurl during the process of infusion. This tea is famous for its apple, fruit and floral notes and golden green liquor. Some recommend brewing oolong tea in a red clay semi-porous Yíxīng 宜興 teapot and sipping the tea from small tasting cups. Since Yíxīng ceramics absorb the taste of the tea, a pot used for brewing a particular type of oolong should ideally not be used for other teas.

The picking seasons for oolong tea are various. Spring tea (*chūn chá* 春茶) is harvested between Chinese New Year and May. The three springtime flushes actually take place between late March and in the first part of May. The spring harvest is considered the best for green teas. The autumn tea is also suitable for the manufacture of oolong tea because autumnal leaves are more fragrant and release more aromatic substances during withering. Tea is highly climate dependant, and so the character of the tea produced from each harvest is different. The weather during the growth of the leaves plays a role, and the conditions during the processing of the picked leaves also influence the final taste and quality.

The autumn harvest takes place around Cold Dew (*hánlù* 寒露), the 17th out of the 24 solar terms, which falls around the 8th or 9th of Octo-

169 Fangzhou Zhang, Rongbing Chen, Yuanqin Li and Fuying Jiang. 2001. 'The effect of different humid conditions on the making of aromatic constituents in oolong tea', *ICOS*, 1 (11): 256–259.

ber. Autumn tea is picked from three days before to four days after Cold Dew, and the tea itself is available for sale a few days later. This tea is referred to as 'proper autumn tea' (*zhèng qiūchá* 正秋茶), as opposed to 'early autumn tea' (*zǎo qiūchá* 早秋茶). Early autumn tea is tea from the summer harvest that becomes available around the time of the mid-autumn festival (*zhōngqiū jié* 中秋節), held on the night of the full moon between early September and early October. Iron Avalokiteśvara or 'Iron Bodhisattva' tea from the spring harvest has a stronger taste and a more delicate fragrance, whereas the autumnal Iron Avalokiteśvara has a milder taste but a more powerful fragrance.

Another type of oolong from Ānxī county is the lesser known Yellow Golden Cassia (*huángjīn guì* 黃金桂), for which the tea leaves are picked earlier than those destined for the manufacture of Iron Avalokiteśvara. Golden Needle Plum (*jīnzhēnméi* 金針梅) is a variety of oolong tea produced in the Bohea mountains. Both of these are lovely and delicate oolongs from the mainland. Yet the most fragrant and refined oolong teas are produced in Táiwān, where most of the tea consumed domestically is oolong. Formosan oolongs have been discussed above in the section on *a ilha formosa*. In view of their sophistication, the varied spectrum of Táiwān oolongs should be treated as a category in their own right. In addition to the many fragrant oolongs from Táiwān, Pouchung (*bāozhǒng* 包種) tea manufactured in the north of Formosa essentially represents a tenderly fermented oolong. This exquisite product of tea knowledge still retains many of the properties and characteristics of a green tea.

Golden Day Lily (*jīnxuān* 金萱) is a varietal developed at the Táiwān Tea Agricultural Research Centre in the 1980s. When used for making oolong, the light oval leaves are sometimes roasted just lightly to impart a creamy texture which is described as a milk fragrance (*nǎixiāng* 奶香). The light roasting of green tea leaves can also be practised to impart this fragrance to green tea. The Golden Day Lily varietal is used to make both traditional oolongs and the Taiwanese weakly fermented Pouchung (*bāozhǒng* 包種) from the Wénshān 文山 mountains in northern Formosa. The Formosan late winter flushes are often made into savoury oolongs. Sometimes they are named after the mountain on which they are harvested, such as the high plateau of the famous Ālǐshān 阿裡山 or another mountain.

In addition to the broad spectrum of oolong teas and the diverse palette of fragrant Formosan oolongs, there is a group of teas that are often classified as representing a type of blue tea (*qīngchá* 青茶) and are even loosely called 'oolongs' by some. Yet these dark and savoury teas are fully oxidised and characterised by strong woody notes, so that one is left to wonder why some classify these teas in the same 'blue' category as the oolongs at all.

These are the rock teas (*yánchá* 岩茶) from Ānxī 安溪 county in the Bohea mountains (*wǔyí shān* 武夷山), and these teas should perhaps best be denominated just as rock teas or reclassified within what the Chinese call 'red' teas. Tea drinkers accustomed to the delicate bouquet of floral and subtle fruity fragrances exuded by Fukien and Formosan oolongs will be challenged to recognise these rock teas as anything similar to an oolong tea, with the exception of a handful of rare artisanally produced batches within each type. Yet what these teas lack in flavour they make up for in the exorbitance of the prices at which they have been sold. Most famous are the Bohea rock teas that are grown from the original 'Five Renowned Tea Bushes' (*wū dà míngcòng* 五大名欉) which still survive from the time of the Sòng dynasty.

Rock tea is still made mostly from trees growing on rocks, boulders and crags in the Bohea mountains. Some of the famous rock tea on the market ostensibly comes from five legendary trees, but some of this famed rock tea comes from clones that have been grown from the cuttings of the original trees and are therefore genetically identical to the famous originals. The terroir is a strong determinant of the taste, but a more important determinant of the taste is the way that the tea has been produced and fully fermented to yield the woody taste and dark colour. Rock teas have grown in popular-

ity in recent years. In 2006, the rock tea manufacturing process was registered as an heirloom of the nation's immaterial cultural heritage. In the spring of 2010, floods adversely affected the summer harvest of rock tea, but production has been up since then.

Big Red Robe (*dà hóng páo* 大紅袍) ostensibly represents the pinnacle of Bohea rock tea (*wǔyí yánchá* 武夷岩茶). Big Red Robe gained its fame when the mother of a Míng dynasty emperor was cured of an illness after she took this old rock tea. In gratitude, four red robes were sent down to Fukien to clothe the tea plants from which the tea had been made, and the superstitious have ascribed curative properties to these rock teas ever since. These four legendary tea trees can be visited and venerated on top of a huge boulder in the Bohea mountains. A packet of 20 g of Big Red Robe from one of the mother plants was sold for 156,800 *yuán* 元 in 1998, which would put the price per kilogramme of this tea in that year at more than ten million dollars. A half kilo of Big Red Robe was sold for 1800 元 in 2006. Like caviar, these rock teas have benefitted from an air of exclusivity, and the traditional hype ranks the teas of these legendary bushes in the order in which they are presented here, with Big Red Robe topping the list.

Iron Arhat (*tiě lúohàn* 鐵羅漢) is made from another of the legendary tea bushes. An *arhat* is a barefoot Buddhist deity who has been freed from the cycle of rebirth. Legend has it that this tea was created by a powerful warrior monk with bronze skin, whence the name 'iron arhat'. Much of the tea marketed under this name is fully oxidised, but some of the tea bearing this name consists of leaves of a dark green colour. Half a kilo of tea made from the leaves of the original bush sold for 1200 元 in 2006.

Third in ranking is White Cockscomb (*bái jìguàn* 白雞冠), which has a milder taste profile and a distinct and lighter appearance. A tribute tea by this name existed during the Míng period. Purportedly made from one of the legendary bushes, a few dedicated farmers began propagating the original cultivar in the mid 1980s. Yet only small quantities of the tea were produced, and half a kilo of this tea sold for 2800 元 in 2006.

The fourth famous bush is Golden Sea Turtle (*shuǐ jīnguī* 水金龜), which produces a dark and somewhat verdant liquor, and half a kilo was sold for 1000 元 in 2006. The fifth famous rock tea is Waist Halfway to the Sky (*bàntiānyāo* 半天腰). This rare Bohea oolong has a mineral taste and toasty aroma acquired from light charcoal roasting. A half kilo of this tea went for 800 元 in 2006. In addition to these famous names, the minor rock teas are likewise prized for the antiquity of the tea trees from which they are made. In addition to the allure of tea made from the leaves of old and famous trees, the practice of ageing tea has long had its advocates. Whilst green tea is best used when the leaves are as fresh as possible, the dark teas such as the celebrated Pǔ'ěr tea are often aged.

By the same token, specific varieties of oolong are sometimes stored and aged, sometimes even for decades, so that the tea itself is old. The rolling of the tea leaves in preparing oolong is said to render the tea more amenable to ageing. Water Sprite tea (*shuǐxiān chá* 水仙茶) is an oxidised oolong with a mild burnt taste. The tea is often aged and then the leaves are rebaked by carefully taking them out and roasting them lightly from time to time. Cassia tea (*ròuguì chá* 肉桂茶) and Eight Immortals tea (*bāxiān chá* 八仙茶) are other fully oxidised oolongs that are sometimes treated in this way. The practice of rebaking tea may have originated in the precautionary measure of periodically lightly roasting tea leaves that had been stored for long periods in order to prevent them from getting mouldy in the humid climate south of the Yangtze. This practice is first mentioned by Zhū Quán 朱權 in 1440 in the succinct *Tea Discourse* (*Chápǔ* 茶譜).[170]

170 Huáng (2000: 529–530).

Chinese Red Teas

What is referred to in the West and in the international tea trade as black tea is in China instead called red tea (紅茶 *hóngchá*). The black tea invented by the Dutch in in the 19th century and further developed by the English essentially represents a new Occidental genre of what the Chinese came to refer to as 'red tea'. Today about 60 % of world consumption involves black tea, and the rest is primarily oolong and green tea, with green tea being preferred in Japan, China and Morocco. Although black tea is the most ubiquitous kind of tea in the world today, it appears that this particular genre of tea had not existed before the European trade in Chinese tea. What people in the West and in the international tea trade call black tea should not be confused with what the Chinese call 'black tea' (*hēichá* 黑茶). Chinese 'black tea' is something else altogether, and such tea forms the topic of the next section.

So, what precisely is black tea, as it is known in the West, or 'red tea', as it is known in China? Where did this type of tea originate? As we shall see in Chapter Nine, historically this is a somewhat embarrassing question because the answer is troubling in several regards. To be precise, black tea is neither black, as the Occidentals say, nor is it red, as the Chinese would have it. The leaves are actually various shades of brown, although some varieties of CTC tea could be described as blackish brown. The infusion brewed from the leaves of black tea is likewise not black, but brown. The colour of the liquor may vary from russet brown, which justifies the Chinese name 'red tea', to tawny brown to a very dark sepia, depending on the tea and on how it has been brewed. In short, the names black and red may sound good, but the tea in question is in fact brown in hue.

Before addressing the history of black tea or what the Chinese call 'red tea', let us define what makes black tea what it is. This brown genre of tea is manufactured in a way that is quite different from the way that green, white or oolong tea is made. After picking the tea leaves, the leaves are neither heated nor desiccated, but instead allowed to wither before being rolled or kneaded. The process of oxidation is given free rein. Fermentation runs its course unimpeded and actually only stops when the leaves have dried completely of their own accord. Black tea is consequently fully oxidised. In tea jargon, what is called 'fermentation' actually involves oxidation as the result of natural enzymatic activity, so that strictly speaking 'fermentation' in tea-speak involves no fermentation at all.

Already in 1893, an insight that had even then already been long appreciated for over half a century by botanists and chemists was explicitly stated for the first time by Montague Kelway Bamber in a textbook on tea cultivation in the British Raj.

> OXIDATION PROCESS: The term "Fermentation" has been usually applied to this process, but "Oxidation" more correctly describes the changes in the leaf that take place in the comparatively short time allowed.[171]

In 1900, Bamber reported that he had isolated an oxidase enzyme from tea leaves.[172] The following year, Asō Keijirō 麻生慶次郎 reported from Tōkyō that the dark pigments in black tea could be attributed 'to the action of the oxydizing enzymes upon the tannin of the tea-leaves'. Asō inferred that 'the oxidase of the tea-leaves is destroyed at about 76°–77°C' and that Japanese green tea owed its green colour 'to the destruction of oxidase in the first steps of preparation', when the leaves that had been briefly steamed.[173] Nonetheless, in practice,

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171 Montague Kelway Bamber. 1893. *A Textbook on the Chemistry and Agriculture of Tea, including the Growth and Manufacture*. Calcutta: Law-Publishing Press (p. 225).

172 Montague Kelway Bamber. 1900. *Report on Ceylon Tea Soils and Their Effects on the Quality of Tea*. Colombo: Times of Ceylon Press (p. 90).

173 Asō Keijiro 麻生慶次郎. 1901. 'On the rôle of oxydase in the preparation of commercial tea', *Bulletin of the College of Agriculture, Tōkyō Imperial University*, IV: 255–259.

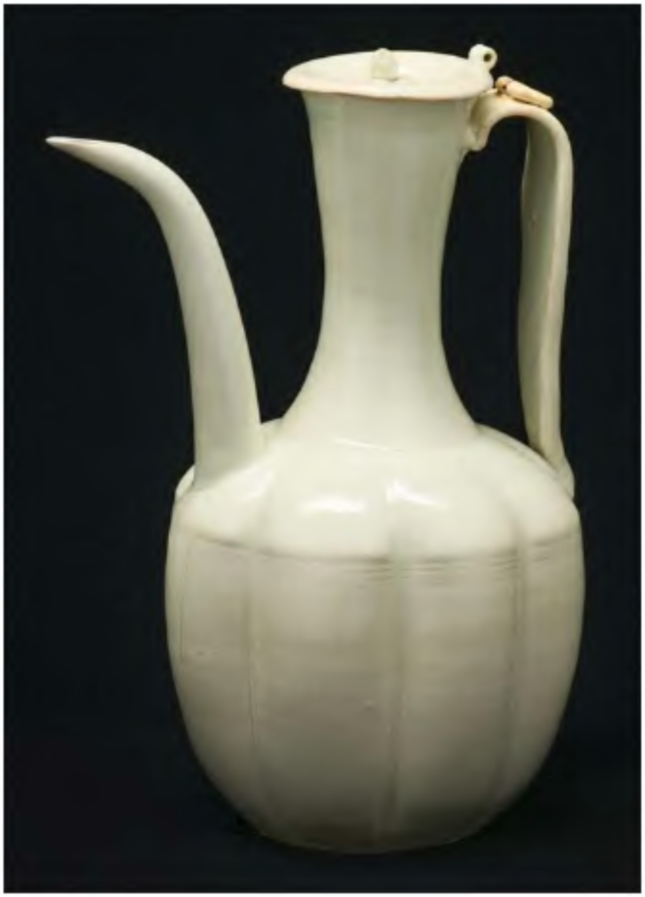

FIGURE 2.60
A melon-shaped glossy white ewer in Qīngbái 清白 porcelain with its characteristic translucent greenish tinge, from Jǐngdézhèn 景德鎮, Northern Sòng dynasty, 11th century
PHOTOGRAPHED BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

the speech habit of referring to oxidation as 'fermentation' has persisted to the present day in the jargon of many tea people, even when these people fully understand the technical difference between oxidation and fermentation. It therefore remains useful to keep the distinction clearly in mind.

Fermentation in the proper sense is the chemical breakdown and transformation of substances with the aid of a culture of bacteria, yeast or other microorganisms. Wine, beer and yoghurt, for example, are products manufactured through fermentation. By contrast, black tea is not fermented in the literal sense. Instead the leaves have been allowed to oxidise and undergo biochemical degradation through natural enzymatic activity. Whilst light aromatic oolong teas undergo only partial oxidation, in black tea, dark tea and darker oolongs, such as the rock teas, oxidation has been allowed to run its course completely. The term 'fermentation' has become entrenched in the tea industry to denote the oxidation process with the concomitant enzymatic decomposition of many of the natural compounds contained in the tea because at one time it was actually erroneously thought that this transformation during withering was conducted by yeasts and other microorganisms.

The term 'black tea' only begins to appear quite late in the Western literature, since all earlier literature highlights the distinction between green and Bohea tea. Bohea tea historically comprised a spectrum of lighter to darker semi-fermented teas which came not just from the Bohea mountains in Fukien but also from adjacent parts of eastern China. The Bohea teas that were consumed in the East Indies or imported to the West at this time were not black tea in the modern sense, but varieties of semi-fermented tea that in the later Qīng

dynasty nomenclature would come to be categorised as 'blue tea'. In Valentyn's day, Western sources did not yet speak of 'black tea'. Black tea as we know it today had not yet been invented. Both as a commodity and as a name, black tea arose in the Dutch East Indies, when the Dutch colonial government attempted to cultivate and manufacture tea in Java.

In the 1820s and 1830s, it had become standard practice amongst tea traders operating in the Dutch East Indies to distinguish between *zwarte thee* 'black tea' and *groene thee* 'green tea'. At this time, Philipp von Siebold too spoke in terms of *grünen und braunen Thee* 'green and brown tea'.[174] This dichotomy was already well established in Dutch government jargon when a resolution was passed on the 14th of June 1832 by the government in Batavia to send Jacobus Jacobson from Java to China to bring back Chinese tea craftsmen to Java, specifically *bereiders van zwarte thee* 'preparers of black tea' and *bereiders van groene thee* 'preparers of green tea'.[175] This distinction between *zwarte thee* 'black tea' and *groene thee* 'green tea' is maintained throughout Jacobson's three-volume handbook on tea cultivation in Java, which was published in Batavia in 1843.[176]

When the English in upper Assam attempted to duplicate the Dutch experiments with tea cultivation in Java, they adopted the terminology used by tea traders and cultivators in the Dutch East Indies. In 1838, Charles Bruce wrote about the first British attempts to produce 'black tea' in British India with the help of 'Chinamen sent thither for that purpose'.[177] Samuel Ball resided in China for the British East India Company from 1804 to 1826. After his return to England, he studied and extolled Jacobson's three-volume handbook on the cultivation of tea. An English translation of all three volumes had been prepared for Ball's personal use by a Dutch clerk in London named Bruggermeyer. In his own 1848 treatise, Ball adopted the Dutch governmental term *zwarte thee* 'black tea' for all tea other than green tea and presented this Dutch distinction to the English speaking world as representing the fundamental dichotomy in matters of tea:

> The teas generally known to foreigners may be divided into two classes, the black and the green.[178]

After the Dutch in Java and the English in Assam began to produce tea without the benefit of the expertise of competent Chinese tea manufacturers, the term 'black tea' came to be applied to the fully oxidised tea which the Dutch and English managed to produce.

In 1726, Valentyn had already mentioned that *konſt* or craftsmanship was required to produce tea. Europeans aspiring to manufacture tea themselves were well aware that the relevant competence was the crucial missing ingredient which Westerners singularly lacked. The Dutch and English attempted, often in vain, to recruit Chinese tea manufacturing expertise, and the fact that the mastery of this craft would elude the West for centuries is essentially what gave rise to black tea. The tea developed by the Dutch in Java and afterwards by the British in India and Ceylon was essentially a new product that had hitherto never been seen or drunk by anyone.

Once the Chinese understood that Westerners were prepared to drink tea that had been prepared through an uncontrolled process of oxidation, involving little skill and requiring signific-

174 Philipp Franz von Siebold. 1832. *Nippon: Archiv zur Beschreibung von Japan*. Leyden: ausgegeben unter dem Schutze Seiner Majestät des Königs der Niederlande … bei dem Verfasser. (*Nippon* VI*: Landwirtschaft u.s.w.: Anbau des Theestrauches und Bereitung des Thee's auf Japan*, p. 12).

175 Jacobus Anne van der Chijs. 1903. *Geschiedenis van de Gouvernements Thee-Cultuur op Java, zamengesteld voornamelijk uit Officëele Bronnen*. Batavia: Landsdrukkerij (pp. 14–17).

176 Jacobus Isidorus Lodewijk Levien Jacobson. 1843. *Handboek voor de kultuur en fabrikatie van thee* (three volumes). Batavia: ter Lands-Drukkerij.

177 Bruce (1838).

178 Ball (1848: 40).

antly less investment of time and labour, the first attestations of red tea (*hóngchá* 紅茶) began to appear in Chinese sources in the context of the efforts of Cantonese tea brokers to supply Western tea merchants with this commodity. Although the term itself must have been coined earlier, the earliest known mention of red tea in print occurs in southeastern Húběi 湖北 province in the *Gazetteer of Chóngyáng County* (*chóngyáng xiàn zhì* 崇陽縣志) of 1866 in reference to tea manufactured by allowing the tea leaves simply to wither without pan frying the leaves, whereby the drying process on rainy days was just continued indoors over smouldering charcoal. What the Chinese call 'red tea' was first prepared in the hinterland of Canton province at the request of Cantonese tea merchants and was destined for export.

Other references to red tea in the Chinese literature of this period mention that the manufacture of this type of tea occurred at the instigation of tea traders from Canton, who wanted to supply this tea to Europeans. This historical trend set into motion by the increased Western demand for fermented Bohea tea is succinctly captured in the formulation of the eminent tea scholar Huang Hsing-Tsung 黃興宗 as follows:

> The flavour induced by 'fermentation' apparently appealed to the palate of the Western drinking public. Further exploitation of this trend led to the emergence of the fully fermented 'red tea' in the latter part of the 19th century.[179]

On the Chinese tea market, this development initially took the form of a Cantonese response to developments in Java and Assam, but the trend to satisfy this changing demand soon spread to other Chinese provinces. The circumstance of tea, and particularly green tea, losing some of its freshness on long sea journeys may have contributed to shaping the Western taste for tea, but the actual emergence of black tea is the result of Western attempts to manufacture tea. The Chinese responded by meeting the demand for 'black tea'. In the early days of the tea trade, fully oxidised tea could not yet be so easily offloaded onto Europe. Kæmpfer, who visited China in the 1690s, mentions that 'vaſt quantities' of the old dried tea leaves which has 'loſt too much of their virtues' were sent from China to Gujarat and Surat to be used as a brown dye.[180]

Contemporaneous sources from Fukien do not mention red tea, and it is a misconception that red tea originated in this province.[181] Despite the late attestation of the term in extant Chinese sources, Ball in 1848 already reported the existence in Canton of 'a particular type of common tea called Hong Cha, or Red Tea'.[182] The form which Ball heard was presumably the Cantonese form *hung*^{4}*caa*^{4} 紅茶 [hʊŋ ˩ tsʰaː ˩] 'red tea'. Lapsang

179 Huáng (2000: 550).

180 Engelbert Kæmpfer. 1727. *The History of Japan, giving an Account of the ancient and preſent State and Government of that Empire; of Its Temples, Palaces, Caſtles and other Buildings; of its Metals, Minerals, Trees, Plants, Animals, Birds and Fiſhes; of The Chronology and Succeſſion of the Emperors, Eccleſiaſtical and Secular; of The Original Descent, Religions, Cuſtoms, and Manufactures of the Natives, and of their Trade and Commerce with the* Dutch *and* Chineſe. *Together with a Description of the Kingdom of Siam. Written in High-Dutch by Engelbertus Kæmpfer, M. D. Phyſician to the Dutch Embaſſy to the Emperor's Court; and tranſlated from his Original Manuſcript, never before printed* (two volumes). London: J.G. Scheuchzer (Vol. 2, 'The Appendix to the History of Japan', p. 16); Engelbert Kæmpfer, M.D. Geneesheer van het Hollandsche Gezantschap na 't Hof van den Keyzer. 1729. *De Beschryving van Japan, behelsende een Verhaal van den Ouden en Tegenwoordigen Staat en Regeering van dat Ryk, van deszelfs Tempels, Paleysen, Kasteelen en andere Gebouwen; van deszelfs Metalen, Mineralen, Boomen, Planten, Dieren, Vogelen en Viſſchen, van de Tydrekening, en Opvolging van de Geeſtelyke en Wereldlyke Keyzers, van de Oorſpronkelyke Afstamming, Godsdienſten, Gewoonten en Handwerkſelen der Inboorlingen, en van hunnen Koophandel met de Nederlanders en de Chineesen, benevens eene Beschryving van het Koningryk Siam.* 's Gravenhage en t' Amsterdam: P. Gosse & J. Neaulme, respectievelijk Balthasar Lakeman.

181 Huáng (2000: 542, 548).

182 Ball (1848: 114).

Souchong, appears to be the oldest surviving variety of red tea in Fukien province, and the Western name was taken from the Cantonese *laap*^{6}*saan*^{1} *siu*^{2}*zung*^{2} 立山小種 [laːp ˧ saːn ˥ siːu ˧˥ tsʊŋ ˧˥]. This tea produced in the Bohea mountains is smoked with pine needles or pine wood as the tea leaves lie on bamboo mats. Its distinctive smokey flavour endeared it to those who took to its taste. The better Lapsang Souchong has only just a smokey note, whereas the lower quality is heavily imbued with pine smoke. In some of the old Lapsang Souchong factories, the tea is piled up on polished stone floors with vents in the stone and chambers with pinewood fires underneath to smoke the tea.

Similarly, the names Ankoi, Ankoy or Ankay are listed in British trade records such as the *Return of the Export Trade at the Port of Amoy for the half-year ended 30*th *June 1863*.[183] At this time, Ankay from Cantonese *on*^{1}*kai*^{1} 安溪 [ɔːn ˥ kɐi̯ ˥][184] was already a black keemun from Fukien which provided a low-quality black tea that could be cheaply acquired by European merchants, but the original Ankoi tea may not have started out this way. Before the Dutch and English attempted to manufacture tea themselves, the brown Bohea teas of the early European tea trade were not at all black tea in the modern sense, but partially fermented teas, many of which would today be termed oolong teas. The descriptions provided by Jacobson and Ball detail quite clearly that the original 'Souchong' tea which appears on the lists of early Dutch traders was also an oolong tea.[185]

From the 1840s, Cantonese tea merchants developed and produced 'red tea' in response to the global popularity of the new black tea being produced by Europeans in the Dutch East Indies and British India. Keemun (*qímén hóngchá* 祁門紅茶) is a red tea from Qímén county produced near Mount Huáng 黄 in the province of Ānhuī 安徽. This tea was developed in 1875 at the beginning of the reign of Guāngxù 光緒 (*imperabat* 1871–1908).[186] Various grades are distinguished. Keemun Downy Summit (*qímén máofēng* 祁門毛峰) is made from the early harvest. Keemun New Bud (*qímén xīnyá* 祁門新芽) is an early bud variety with reduced astringency. Keemun Fine Bud (*qímén háoyá* 祁門毫芽) represents the medium grade, and Keemun Congo (*qímén gōngfū* 祁門工夫) is a grade suitable for use in the Chinese tea ceremony. The lucrative Cantonese trade in red tea peaked in the 1880s, after which black tea production in Java, India and Ceylon overtook Chinese production.[187]

China has continued to develop new red teas. The prolix Yíbīn Early White Point Skill (*yíbīn zǎobǎijiān gōngfū* 宜賓早白尖工夫) is a red tea produced around Yíbīn 宜賓 in Sìchuān. Near Xìnyáng 信陽 in Hénán 河南 province, a new type of red tea is grown which is simply called Xìnyáng Red (*xìnyáng hóng* 信陽紅). Tea can be harvested three times a year, but the tea around Xìnyáng used to be harvested only during the three flushes of the Spring harvest in order to produce the famous local green tea called Fur Points (*xìnyáng máojiān* 信陽毛尖). Consequently, the potential of the summer and autumn harvests was left untapped. Xìnyáng Red is a recent innovation that represents an attempt to optimise yield diversity by creating an entirely new type of tea. Proponents of sustainable tea argue, however, that relentless plucking is not good for the tea plant, the soil or the quality of the tea, but the tea plants at Xìnyáng are not the only plants to be plucked many times a year. Today most plants are treated this way.

183 Andrea Eberhard-Bréard. 2003. 'Invention of foreign trade statistics in China at the turn of the 20th century', in Jérôme Bordieu, Martin Bruegel and Alessandro Stanziani, eds., *Nomenclatures et Classifications: Approches historiques, Enjeux économiques (colloque organisé à l'École normale supérieure économique de Cachan, 19–20 juin 2003)—Actes et Communications de l'Institut National de la Recherche Agronomique*, No. 21 (novembre 2004): 25–56 (esp. pp. 34, 48).

184 Mandarin: *ānxī hóngchá*.

185 Jacobson (1843); Ball (1848: 103–153).

186 Huáng (2000: 544).

187 Huáng (2000: 548).

Chinese Fermented or Dark Teas

If the brown tea that we in the West call 'black tea' is actually considered to be red tea in China, then what is it that the Chinese call black tea? Chinese 'black tea' (*hēichá* 黑茶) is something altogether quite different from what is called black tea in the West. In Chinese, *hēichá* 黑茶 'black tea' is lactic acid fermented tea. Many people have taken to referring to these black fermented teas in English as 'dark teas' to avoid confusion with the commodity that is called black tea in the West and in the international tea trade. The Chinese are quite right to call this other type of tea 'black tea' because its leaves often tend to be nearly black in colour, whereas what the West calls black tea is in fact brown. One of the earliest mentions of Chinese dark teas in a Western source dates from 1756. In addition to green and black tea, Jonas Hanway mentioned:

> … a third principal fort, of which we can give but an imperfect account, becaufe ftrangers are not permitted to enter the place where it grows. It is called *Pou eul tcha*, from the village *Pou eul* in the province of *Yunnan*. Thofe who have been at the foot of the mountain, inform us, that this fhrub is tall and bufhy, planted without regularity and grows without cultivation. The leaves are more long and thick, than thofe of the two former kinds.[188]

What Hanway calls *Pou eul tcha* is actually Pǔ'ěr 普洱 or 'Pu-erh' tea, the most celebrated type of dark tea.

Yet another English name for these swarthy teas is 'fermented teas', since these dark teas are genuinely fermented in the literal sense of the word. There is yet a third name for dark teas in English, for in tea speak the term 'fermentation' is a confusing word, as explained in the previous section on black or 'red' tea. The English word 'fermentation' in the tea industry has traditionally been used to mean oxidation, and not fermentation in the proper sense. In this eclectic usage, the word 'fermentation' conventionally denotes the controlled oxidation of oolong or red teas. So it is a trifle confusing when dark teas, which are genuinely fermented, are also called 'fermented' teas. Consequently, these dark teas are sometimes also called 'post-fermented'. What 'post-fermentation' actually means is nothing more than true fermentation with the aid of microorganisms after the process of oxidation has either been arrested or naturally come to a halt.

Dark tea is lactic acid fermented tea. In manufacturing dark tea, the large tea leaves are heated to halt the oxidation process by steaming, boiling or, nowadays most usually in the case of artisanal dark tea, by heating in a wok. The tea is not roasted dry, as in the manufacture of Dragon Well tea, but left slightly damp. Then the leaves are rolled and sun dried to yield a large-leaf green tea known as coarse tea (*máochá* 毛茶). In the context of dark fermented Chinese teas, it is helpful to recall that the antique tradition of pickling tea for eating as a condiment was intended to make what the Palaung call *miəm* မျံမ် 'pickled tea' and the Thai call *mî:ang* เมี่ยง. It appears that this custom must have first inspired fermented tea for drinking, for fermented tea originated in the subtropical southwestern province of Yúnnán 雲南, which borders on Burma, Laos and Vietnam. In other words, dark tea arose in the original tea homeland.

188 Jonas Hanway. 1756. *An Effay on Tea: Confidered as pernicious to Health; obftructing Industry; and impoverifhing the Nation: with A Short Account of its Growth, and Great Confumption in thefe Kingdoms with Several Political Reflections, in Twenty-Five Letters, Addreffed to two Ladies* (being the second volume of *A Journal of Eight Days Journey from Portfmouth to Kingfton upon Thames; through Southampton, Wiltfhire &c. with Mifcellaneous Thoughts, Moral and Religious in a Series of Sixty-Four Letters: Addreffed to two Ladies of the Partie. To which is added An Essay on Tea, confidered as pernicious to Health, obftructing Industry, and Improverifhing the Nation: With an Account of its Growth, and Great Confumption in thefe Kingdoms, with Several Political Reflections; and Thoughts on Public Love, In Twenty-five Letters to to the fame Ladies*). London: H. Woodfall (p. 211). [A second edition appeared in 1757, published in London by H. Woodfall and C. Henderson.]

FIGURE 2.61
Xíng 邢 ware vase of the 7th or early 8th century, Táng dynasty was purchased by Barbara and William Karatz as a gift to the Metropolitan Museum of Art in New York in honour of James C.Y. Watt.

The native peoples of this region, despite their distinct languages and cultures, have for ages shared the culinary habit of eating pickled tea. During the Táng dynasty, the practice of drinking tea as a beverage became popular, and at the same time tea bricks from this area began to be exported to Tibet, Turkestan and Mongolia, and to this day most fermented tea still comes compressed into tea bricks (*jìnyāchá* 緊壓茶). Once tea had been boiled and pickled, the idea of drinking an infusion of the dried pickled tea must have occurred to mind. Dark teas such as *ləp^{h}ɛʔso* လက်ဖက်စို of Burma, *mî:ang* เมี่ยง of Thailand and *suānchá* 酸茶 'sour tea' of Sipsongpanna are all post-heated fermented teas that are eaten like pickles. Pǔ'ěr tea is essentially moulding green tea which then turns black.

In Yúnnán, Pǔ'ěr tea therefore originated as a beverage made from the fermented teas that were normally eaten or chewed as a quid. In the Sìpsɔ̌:ngphanna: สิบสองพันนา region, the trade in this tea was commercialised by Hàn 漢 merchants between 1368 and 1850. In particular, merchants from Jiāngxī 江西 who were deeply in debt migrated to Yúnnán to make their fortunes in trade during the early portion of this period. By the reign of emperor Wànlì 萬曆 (*imperabat* 1572–1620), the trade of Hàn tea traders had spread this variety of tea beyond Yúnnán, and during the Qīng the tea was already traded throughout China as a local specialty tea of Pǔ'ěr.[189]

Later across the sea, Japanese *awa bancha* 阿波番茶 from Tokushima 徳島 prefecture would be prepared like Pǔ'ěr tea and drunk as an infusion. Japanese *awa bancha* is produced under anaerobic conditions like the *ləp^{h}ɛʔso* of Burma, the *miang* of Thailand and *suānchá* of Sipsongpanna, whereas the fermentation of the *goishi cha* 碁石茶 of Kōchi 高知 prefecture and the *ishizuchi kurocha* 石鎚黒茶 of Ehime 愛媛 prefecture takes place, for a large part, under aerobic conditions. The composition and proportions of the various amino acids contained in Pǔ'ěr tea change in complex ways over time during the ageing process. Aged Pǔ'ěr tea contains much gallic acid but has lost all its catechins.[190]

189 Masuda Atsushi. 2008. 'Tea as a commodity in southwest Yúnnán Province: Pǔ'ěr and the Sipsongpanna in Qīng China', pp. 243–266 in Nishimura (op.cit.).

190 Miyuki Kato, Mie Inoue, Lin Zhe and Masashi Omori. 2004. 'The effects on the flavour components of Pǔ'ěr tea during the ageing period', *ICOS*, 2: 245–248.

The mould in such teas increases the amount of the amino acids leucine, thyrosine, histidine and lysine.[191] Studies on the pickled tea in northern Thailand and the lactic acid fermented dark teas of Japan have demonstrated that much the same bouquet of volatile aromatic substances impart the particular flavour characteristic of such lactic acid fermented teas, whether they are pickled for eating or dried for use in an infusion.[192] Once the drinking of fermented tea had caught on locally as a mode of consuming tea as a beverage, very little imagination was required for people to start imputing enhanced medicinal properties to the tea once it had been aged.

People of Yúnnán also still drink the young fermented tea, which has only been lightly fermented, sometimes called 'green Pǔ'ěr', just as they drink the tea that has been so famously aged. Especially people of the indigenous minorities drink the lightly fermented dark tea. Traditional fermented tea or 'raw tea' (*shēngchá* 生茶) is manufactured without the artificial introduction of a microbial culture. The tea is stored under particular conditions so that a fermentation process naturally enlists ambient microorganisms and gets started on its own and then progresses slowly.

The sun dried 毛茶 *máochá* may be steamed slightly to render it pliable enough to compress into the shape of tea bricks. The raw tea may alternatively be prepared as loose leaf tea, in which case the ageing process unfolds at a faster rate. The tea is then aged in covered bamboo baskets under humid conditions to promote the growth of certain fungi. The old way to ripen dark tea is simply to let it age, which takes time. The oldest ripened fermented tea from the time of the Qīng dynasty fetches the highest price from the dark tea aficionado. Therefore, some tea merchants zealous of selling their tea at a better price sometimes store their bricks of dark tea in warm damp conditions so that the tea ages faster. With fermented dark teas, the older the tea, the more sought after it becomes.

Pǔ'ěr tea connoisseurs distinguish fastidiously between naturally fermented and aged Pǔ'ěr tea, which has not undergone some artificially accelerated ageing process, but has been kept in a dry storehouse at a relative humidity of less than 80%, from artificially pile-fermented Pǔ'ěr tea that has been subject to accelerated fermentation with *Aspergillus* under artificial conditions at a humidity in excess of 80%, especially by regular watering of the heaps of tea leaves. Compressed Pǔ'ěr tea bricks can also be subjected to artificially accelerated fermentation under excessively humid conditions. Tea which has undergone artificially accelerated fermentation is referred to as ripened tea (*shúchá* 熟茶) or, in disrespectful English, as 'cooked tea'.

According to Zhang and Hunter, the 'cooking' of Pǔ'ěr tea as a technique originated not in response to an increased demand for Pǔ'ěr tea on the market, but much earlier in order to compensate for the destruction of old stores of ageing Pǔ'ěr tea by Máo Zédōng, who, they write, undertook to destroy traditional Chinese tea culture and to transform tea production as part of his Great Leap Forward.[193] The fermentation or 'post-fermentation' is effectuated by microorganisms which are naturally present, as in the traditional method, or by bacterial or fungal cultures which have been intentionally introduced secondarily. From the 1970s, tea factories began to implement the new technique of *wòduī* 渥堆 'moist heaping' on an industrial scale by piling up damp tea into piles of leaves that were 1 to 1½ metres deep.

The tea is kept both warm and moist and is covered with wet cloth to accelerate the fungal and bacterial fermentation. The tea is turned over roughly every two days. By composting the tea

191 Miyuki Kato, Asako Tamura, Hiromi Saitō, Masashi Omori, Atsuko Nanba, Kinjiro Miyagawa. 1995. 'Changes of flavour during manufacturing process of Japanese fermented tea (*ishizuchi-kurocha*) and its characteristic', *Journal of Home Economics of Japan*, 46 (6): 525–530.

192 Kawakami et al. (1987).

193 Zhang and Hunter (2015: 17).

FIGURE 2.62 Brick tea comes in various shapes and sizes. At the Měnghǎi 勐海 tea factory in Yúnnán, which opened in 1939 under the name Fúhǎi 佛海, the finest Pǔ'ěr 普洱 tea is still moulded by hand and pressed into shape with stone weights, yielding the square tea bricks or 方茶 *fāngchá*, depicted here, as well as discus-shaped tea bricks or 餅茶 *bǐngchá*.
PHOTO BY LUKE DUGGLEBY

leaves in this way for thirty to forty days, producers are able to attain a finished product in a matter of months that some tea drinkers think tastes like dark tea that had been aged and allowed to ferment naturally for a decade or more. After the fermented tea has turned brown, the leaves are air-dried and can then be turned into loose leaf dark tea or, when still slightly moist, pressed into traditional tea bricks.

A stereotypical infusion of fermented dark tea is deep brown, tastes very woody and exudes the powerful aroma of lush humus. In fact, this description does not apply to all dark teas. We have already noted the difference between raw fermented tea (*shēngchá* 生茶) and ripened tea (*shúchá* 熟茶). Dark teas also vary considerably as a function of their age, the terroir, the size of the leaves used, the type of tea tree from which the leaves were plucked, and the way in which the tea was prepared, and whether the tea was aged by traditional or artificial modern methods.

Finally, perhaps the most crucial determinant of the final taste of the tea are the species of mould and bacteria that happen to be present in the tea. The fermentation involves the chemical breakdown and transformation of the tea with the aid of bacteria and fungi, and consequently there are major differences between different types of fermented tea, depending on the cultures of moulds which occur in a particular batch of tea. This process of manufacture imparts a pleasant earthiness and often imbues the tea with great aromatic complexity. The diversity of taste and aroma of dark teas is a natural consequence of the differences in preparation, the duration of ageing and the species of moulds in the tea.

The most famous fermented tea is the famous Pǔ'ěr 普洱 or 'Pu-erh' tea of Yúnnán 雲南. An odour called *chén xiāng* 陳香 'stale fragrance' is generated during the microbial fermentation of Pǔ'ěr tea, which changes the mass of brownish yellow leaves exuding the mild odour of dried fruits to a mass of dark brown leaves exuding a musty smell with a metallic note. In this process, the predominant aromatic compounds in raw Pǔ'ěr, such as phenylacetic acid, dihydroactinidiolide and vanillin, are reduced and overshadowed by other aromatic compounds which predominate in ripened Pǔ'ěr tea leaves, such as 1,2,3-trimethoxybenzene, trans-linalool-3,7-oxide, cis-linalool-3,7-oxide and 1,2,4-trimethoxybenzene. The transformation yields a musty bouquet in which the following volatiles predominate: 1-octen-3-one, linalool, 2-methylnonane-2,4-dione, *β*-damascenone, maltol, 2,5-dimethyl-4-hydroxy-2*H*-furan-3-one, carvacrol, 4-vinylguaiacol, 2-phenylethanol, vanillin, phenylacetic acid, hexanoic acid, 1,2-dimethoxybenzene, eugenol, guaiacol, hotrienol, geraniol, borneol, *β*-ionone, coumarin, rasberry ketone, (2*E*)-hexenal, nonanal, decanal, (2*E*,4*Z*)-heptadienal, dimethyl sulfide, 3-methylnonane-2,4-dione, dihydroactinidiolide and indole.[194]

In Pǔ'ěr tea, the famous catechins of green tea have largely vanished. Many of the polyphenols have assumed complex polymerised forms, and numerous other complex compounds have been formed instead during the manufacture and ageing of Pǔ'ěr tea.[195] The loss of the healthy catechins in Pǔ'ěr tea is not surprising, since most moulds such as *Fusarium solani, Rosellina necafrix* and those of the genus *Penicillium* drastically and expediently degrade ester linkages with their esterases.[196] In addition to residues of the catechins and flavonols found in green tea, a potpourri of compounds are found in Pǔ'ěr tea, including strictinin, chlorogenic acid, 1'6-O-digalloyl-β-D-glucopyranose, gallic acid, rutin, 3α,5α-dihydroxy-4α-caffeoylquinic acid, coniferin, puerin A, puerin B, 1,2,4-benzenetriol, cinchonain-Ib, 2,2',6,6'-tetrahydroxydiphenyl, 1,3-benzenediol, 4-methyl-1,2-benzenediol, 8-oxocaffeine, deoxythimidine, lovastatin, thymine, uracil, 1,2-dimethoxybenzene, 1,2-dimethoxy-4-methylbenzene, 1,2-dimethoxy-4-ethylbenzene, 1,2,3-trimethoxybenzene, 1,2,3-trimethoxy-5-methylbenzene and 1,2,3-trimethoxy-5-ethylbenzene, and investigators have barely begun to scrape the surface.[197]

The city of Pǔ'ěr 普洱 got its name changed to Sīmáo 思茅 in 1950 after the communist takeover. In the years before 2009, much hype and market speculation about Pǔ'ěr tea had led to inflated prices for highly aged teas. In 2006, some 23,000 tonnes of Pǔ'ěr tea were grown, over 90% of which came from tea plantations. Some of the more prized Pǔ'ěr 'jungle tea' is grown in small private gardens, such as those from the lush subtropical terroir of the Xīshuāngbǎnnà 西雙版納 area in southern Yúnnán along the Mekong. Pǔ'ěr tea, particularly jungle tea, is often made from the larger leaves of medium-sized to large tea trees, and sometimes even from very big leaves. The peak tea plucking season takes place in March and April.

Compressed Pǔ'ěr tea bricks that sold for 3 元 or 40¢ in 1988 were easily sold for 200 元 or $25 each in 2008. Some batches of tea fetched exorbitant prices. In 2007, at the height of the bubble, the city of Sīmáo enthusiastically changed its name back to Pǔ'ěr 普洱. As with most bubbles, at one point

194 Aki Baba, Naoto Omotani, Hisae Kasuga and Toshikazu Sugunuma. 2007. 'Aroma components in brewed Pǔ'ěr tea (ripened Pǔ'ěr and raw Pǔ'ěr)', *ICOS*, 3, PR-P-123; Hisae Kasuga, Yutaka Kajitani, Di Liu, Kanzo Sakata, Yoko Kasahara and Kazutoshi Sakurai. 2010. 'Quantification and differences of aroma compounds in Pǔ'ěr tea', *ICOS*, 4, HB-P-12.

195 Ying-Jun Zhang, Gai-Mei She, Zhi-Hong Zhou, Xiang-Lan Zhang and Chong-Ren Yang. 2007. 'Chemical constituents of Pǔ'ěr tea, a special post-fermented tea', *ICOS*, 3, HB-P-003.

196 Sumei Huang, Kiyohiko Seki, Takashi Tanaka, Isao Kouno and Kanji Ishimaru. 2007. 'Chemical constituents of green tea extracts fermented with *Penicillium, Fusarium* and *Rosellina*', *ICOS*, 3, PR-P-101.

197 Lin Zhi and Lv Hai-Peng. 2007. 'Advances in the study of the chemical composition and biological activity of Pǔ'ěr tea', *ICOS*, 3, MI-S-01.

they pop. Much of what was sold as 'jungle tea' was not what it pretended to be. Moreover, much tea that had purportedly been aged for many years turned out not to be quite as old as it was claimed to be. Prices caved in when the fashion faded in 2009. The subsequent shortage of rainfall in Yúnnán, Guìzhōu and Sìchuān led to a poor harvest in 2010. In the same year, cold weather affected tea plantations in Fukien and Zhèjiāng. In the wake of the excesses in the early noughties, controls were imposed. In the mountainous regions around Pǔ'ěr city, the oldest wild tea trees are protected, and the picking of their leaves is strictly prohibited.

Since 2008, the production of Pǔ'ěr tea has been restricted by a geographical indication (*dìlǐ biāozhì* 地理標志). The administrative regions that are allowed to use the Pǔ'ěr appellation are all located in southern Yúnnán: Pǔ'ěr 普洱, Kūnmíng 昆明, Bǎoshān 保山, Líncāng 臨滄, Yùxī 玉溪, Chǔxióng Yí nationality autonomous prefecture 楚雄彝族自治州, Hónghé Hāní and Yí nationalities autonomous prefecture 紅河哈尼族彝族自治州, Wénshān Tai and Hmong nationalities autonomous prefecture 文山壯族苗族自治州, Xīshuāngbǎnnà Dǎi nationality autonomous prefecture 西雙版納傣族自治州, Dàlǐ Bái nationality autonomous prefecture 大理白族自治州 and Déhóng Dǎi and Jǐngpō nationalities autonomous province 德宏傣族景頗族自治州.

Fermented tea is also manufactured outside of Yúnnán province. Therefore, not all fermented tea or *hēichá* 黑茶 is Pǔ'ěr tea. For example, Six Fortresses (*liùbǎo* 六堡) is a fermented tea from Guǎngxī 廣西 province, often sold as a loose tea, and Six Peaceful Baskets (*liù'ānlán* 六安籃) is a fermented dark tea from Ānhuī 安徽. The fermented tea manufactured near the city of Chóngqìng 重慶 is not blessed with such a poetic name, and is therefore often just referred to simply as Chóngqìng Bird's Nest tea (*chóngqìng tuóchá* 重慶沱茶). Strictly speaking, however, *tuóchá* does not denote a type of tea. Rather, *tuóchá* is the name of any tea that has been compressed into a torus-shaped conical brick, in the form of a bird's nest. Pǔ'ěr tea often, but not always, comes in this shape. So, not all Pǔ'ěr tea is *tuóchá*, and not all *tuóchá* is Pǔ'ěr tea.

Brick tea comes in various shapes. *Tuóchá* is just one shape. There are also small bird nest shaped tea bricks (*xiǎo tuóchá* 小沱茶) of about 2 to 5 grammes each, so that one tiny bird's nest will suffice for a pot of tea. There are also rectangular tea bricks (*zhuānchá* 磚茶), discus-shaped tea bricks (*bǐngchá* 餅茶), often sold in stacks of seven called 'seven children' (*qī zǐ* 七子), square tea bricks (*fāngchá* 方茶), mushroom-shaped tea bricks (*jǐnchá* 緊茶), popular in Tibet, 'golden melon' bricks (*jīnguāchá* 金瓜茶), a shape originally reserved for tribute tea, and spherical tea bricks (*tuánchá* 團茶), which may vary in diameter from the size of a ping-pong ball to the size of a human skull.

Other types of fermented tea, which usually come in the form of any of these types of bricks, include 'border road tea' (*lùbiānchá* 路邊茶) and 'border market tea' (*biānxiāochá* 邊銷茶) from Sìchuān and 'blue brick tea' (*qīngzhuānchá* 青磚茶) from Húběi 湖北. The Húnán dark tea (*húnán hēichá* 湖南黑茶), famously comes in the shape of flowery tiles (*huāzhuān* 花磚). These flat tea bricks are decorated with a floral pattern or other design in relief moulded onto the surface of the tea tile.

Other than cases of 'cooked tea' being sold for exorbitant prices as Qīng dynasty heirloom tea, a second factor possibly contributing to the sudden dip in the popularity of Pǔ'ěr tea at the end of the noughties may have been the finding that some Pǔ'ěr tea was found to contain mycotoxins, though these findings were not widely publicised. In fact, some samples of Pǔ'ěr tea were found to contain aflatoxins.[198] Aflatoxins are natural mycotoxins produced by the moulds *Aspergillus flavus* and *Aspergillus parasiticus* that are amongst the most highly carcinogenic substances known to man. In

198 Jinyin Wu, Guangyu Yang, Jianling Chen, Wenxue Li, Juntao Li, Chuanxi Fu, Gaofeng Jiang and Wei Zhu. 2014. 'Investigation of Pu-erh tea contamination caused by mycotoxins in a tea market in Guangzhou', *Journal of Basic & Applied Sciences*, 10: 349–356.

addition to giving rise to liver cancer, which is the third leading cause of cancer mortality globally, aflatoxins have been associated with immune system dysfunction and stunted growth in children.[199]

Some researchers also found the mycotoxins fumonisin B_1, ochratoxin A and T-2 mycotoxin in Pǔ'ěr tea.[200] However, not all Pǔ'ěr tea tested was found to contain toxins or mutagenic compounds.[201] One study suggested that some substances in 'properly' fermented Pǔ'ěr tea might even inhibit the synthesis of aflatoxins, but even this group conceded that there was nothing in Pǔ'ěr tea preventing the growth of *Aspergillus flavus*, which actually produces the aflatoxins.[202] Aflatoxins have also been found rarely also to affect black tea, or what the Chinese call 'red tea', when the tea has been stored for long periods of time in conditions conducive to the proliferation of mould.

The likelihood of aflatoxins forming is greater in brick tea which has been stored for long periods and has had to suffer foul weather *en route* or storage conditions with varying humidity. Aflatoxins have occasionally been detected in infected cheese, nuts, almonds, figs and spices, and they can also find their way into milk and eggs when cattle and poultry are fed with aflatoxin-contaminated feed. However, the foodstuffs with the highest risk of aflatoxin contamination are mouldy maize, cottonseed and particularly peanuts.

Yet we can obviously not expect Pǔ'ěr and other dark teas to be devoid of moulds, for these teas are inherently fermented commodities. This fermentation process principally and necessarily involves bacteria and, more particularly, various types of moulds which are responsible for the ripening of the tea. Several studies have identified the mould *Aspergillus niger* to be the main microorganism responsible for the fermentation of Pǔ'ěr tea.[203] One study suggested that *Aspergillus niger* might be safe,[204] yet *Aspergillus niger* is known to produce the mycotoxins ochratoxin A, fumonisins B_2 and B_4. Another study was unable to isolate *Aspergillus niger* from Pǔ'ěr tea, and instead, in the samples that they tested, they found the harmless *Aspergillus acidus*, also known as *Aspergillus fœtidus*, var. *acidus*.[205] The discrepancies between such findings highlight part of the problem.

Numerous different species of moulds have been identified within the genus *Aspergillus*, which is currently divided into 8 subgenera and 22 sections. All species of the genus are resistant to the antifungals fluconazole and 5-fluorocytosine.[206] Moreover, section *Nigri* within the genus

199 John D. Groopman, Thomas W. Kensler and C.P. Wild. 2008. 'Protective interventions to prevent aflatoxin-induced carcinogenesis in developing countries', *Annual Review of Public Health*, 29: 187–203; Pornsri Khlangwiset, Gordon S. Shephard and Felicia Wu. 2011. 'Aflatoxins and growth impairment: A review', *Critical Reviews in Toxicology*, 41 (9): 740–755.

200 Chen Jianling, Li Wenxue, Yang Guangyu, Zhou Zhitao, Chen Wen, Zhu Wei and Liu Huazhang. 2011. 'Biological contamination of Pǔ'ěr tea in a Guǎngzhōu tea market', *Carcinogenesis, Mutagenesis and Teratogenesis*, 23 (1): 68–71.

201 Gong Jiashun, Chen Wenping, Zhou Hongjie, Dong Zhaojun and Zhang Yifang. 2007. 'Evaluation on the function and toxicity of extraction of characteristic components in Yunnan Pu-erh tea', *Journal of Tea Science*, 27 (3): 201–210; Jesper Mølgaard Mogensen, Janos Varga, U. Thrane and Jens C. Frisvad. 2009. '*Aspergillus acidus* from Puerh tea and black tea does not produce ochratoxin A and fumonisin B_2', *International Journal of Food Microbiology*, 132 (2–3): 141–144.

202 Haizhen Mo, H. Zhang, Q.H. Wu, L.B. Hu. 2013. 'Inhibitory effects of tea extract on aflatoxin production by *Aspergillus flavus*', *Letters in Applied Microbiology*, 56 (6): 462–466.

203 X. Xu, M. Yan and Y. Zhu. 2005. 'Influence of fungal fermentation on the development of volatile compounds in the Puer tea manufacturing process', *Engineering in Life Sciences*, 5 (4): 382–386; Jia Shun Gong, Chun Xiu Peng, Xiang He, Jun Hong Li, Bao Cai Li and Hong Jie Zhou. 2009. 'Antioxidant activity of extracts of Pu-erh tea and its material', *Asian Journal of Agricultural Sciences*, 1 (2): 48–54.

204 E. Schuster, N. Dunn-Coleman, Jens C. Frisvad and P. van Dijck. 2002. 'On the safety of *Aspergillus niger*: A review', *Applied Microbiology and Biotechnology*, 59 (4–5): 426–435.

205 Mogensen et al. (2009).

206 Walter Buzina. 2013. '*Aspergillus*: Classification and antifungal susceptibilities', *Current Pharmaceutical Design*, 19 (20): 3615–3628.

Aspergillus now includes 26 taxa, and it is exceedingly cumbersome to determine which particular species might occur in any given sample.[207] Meticulous research has enabled researchers recently to conclude that the three *Aspergillus* species *luchuensis, kawachii* and *acidus* found in Pǔ'ěr tea are in reality one and the same species. They argue that this harmless species should be named *Aspergillus luchuensis* on the basis of priority.[208]

Yet no one mould is responsible for the fermentation of Pǔ'ěr tea. Each batch contains a different set of moulds and bacteria, in which one or two species may predominate. One study found *Aspergillus niger* and *Blastobotrys adeninivorans* to be the predominant microorganisms in a batch of Pǔ'ěr tea.[209] In another batch of Pǔ'ěr tea, a group of researchers found the moulds *Aspergillus niger, Penicillium, Rhizopus, Aspergillus gloucus, Saccharomyces, Aspergillus terreus* and *Aspergillus candidus*, in addition to a plethora of various bacteria, whereby *Aspergillus niger* was the predominant microorganism and the yeast *Saccharomyces* the next most abundant microorganism.[210]

In yet another batch of Pǔ'ěr tea, a group of researchers found no *Aspergillus niger*, but instead observed *Aspergillus acidus, Aspergillus fumigatus, Zygomycetes* and *Penicillium* species.[211] Another research team found Pǔ'ěr tea to contain *Basidiomycetes spp.*[212] Yet another group of investigators found *Aspergillus versicolor* and *Aspergillus sydowii*,[213] and yet another group found the predominant microorganisms in their batch of Pǔ'ěr tea to comprise *Aspergillus fumigatus, Penicillium spp., Trichoderma spp., Fusarium culmorum* and other species, some of which they found to be excreting toxic metabolites.[214]

The various moulds inhabiting Pǔ'ěr 普洱 tea and their biochemical products demand further scientific investigation. Sometimes dreadful carcinogens lurk in fermented tea that looks quite innocuous, whereas some disturbingly conspicuous moulds might be harmless or even beneficial. Sometimes bricks of fermented tea are observed to show a bright yellow discolouration caused by a fungal bloom of the species *Eurotium cristatum*. This egg yolk coloured mould is referred to as a golden flower (*jīnhuā* 金花).[215] Certain metabolites excreted by the fungus *Erotium cristatum* found in some batches of fermented tea have been shown to activate pancreatic enzymes and regulate blood lipids and may have a therapeutic effect in combatting hyperlipidaemia.[216]

207 Janos Varga, Jens C. Frisvad, S. Kocsubé, B. Brankovics, B. Toth, G. Szigeti and Robert A. Samson. 2011. 'New and revisited species in *Aspergillus* section *Nigri*', *Studies in Mycology*, 69: 1–17.

208 Seung-Beom Hong, Mina Lee, Dae-Ho Kim, Janos Varga, Jens C. Frisvad, Giancarlo Perrone, Katsuya Gomi, Osamu Yamada, Masuyuki Machida, Jos Houbraken and Robert A. Samson. 2013. '*Aspergillus luchuensis*, an industrially important black *Aspergillus* in East Asia', *Public Library of Science One*, 8 (5): e63769.

209 Michiharu Abe, Naohiro Takaoka, Yoshito Idemoto, Chihiro Takagi, Takuji Imai and Kiyohiko Nakasaki. 2008. 'Characteristic fungi observed in the fermentation process for Puer tea', *International journal of Food Microbiology*, 124 (2): 199–203.

210 H.J. Zhou, J.H. Li, L.F. Zhao, J. Han, X.J. Yang and W. Yang. 2004. 'Study on main microbes on quality formation of Yunnan Pu-erh tea during pile-fermentation process', *Tea Science*, 24 (3): 212–218.

211 Doris Haas, Bettina Pfeifer, Christoph Reiterich, Regina Partenheimer, Bernhard Reck, Walter Buzina. 2013. 'Identification and quantification of fungi and mycotoxins from Pu-erh tea', *International Journal of Food Microbiology*, 166 (2): 316–322.

212 Zhengli Gong, Naoharu Watanabe, Akihito Yagi, Hideo Etoh, Kanzo Sakata, Kazuo Ina and Qinjin Liu. 1993. 'Compositional change of *Pu-erh* tea during processing', *Bioscience, Biotechnology and Biochemistry*, 57 (10): 1745–1746.

213 James H. Clarke, Janet M. Naylor, John N. Banks and Keith A. Scudamore. 1994. 'The mycofloras and potential for mycotoxin production of various samples of green, fermented and late fermented tea', *Tea Research Journal*, 79: 31–36.

214 Z.J. Zhao, H.R. Tong, L. Zhou, E.X. Wang and Q.J. Liu. 2010. 'Fungal colonisation of Pu-erh tea in Yunnan', *Journal of Food Safety*, 30 (4): 769–784.

215 Chen Guimei, Huang Yaya, Liang Yan, Deng Yongliang, Ji Xiaoming, Zhou Xingchang and Hu Xin. 2013. 'Identification and analysis of "golden flower" fungus from Fu brick tea in Shǎnxī province', *Húběi Agricultural Science*, 2013 (2): 345–348.

216 Donghe Fu, Elizabeth P. Ryan, Jianan Huang, Zhonghua Liu, Tiffany L. Weir, Randall L. Snook, Timothy P. Ryan.

Some tea researchers have attempted to inoculate fermenting tea with an *Eurotium cristatum* spore suspension solution.[217] Others have inoculated Pǔ'ěr tea with *Streptomyces cinereus* in order to direct the process of fermentation.[218] It has been suggested that some of the substances produced in tea fermentation may have potential antimicrobial properties,[219] but several substances tested thus far have turned out to be devoid of promise.[220] Yet some substances produced in the fermentation process in brick teas in which *Eurotium spp.* were the dominant fungi were found to have some antibacterial effects.[221]

Finally, many salubrious and beneficial substances for which green tea and even black tea are justly famous, such as polyphenols, catechins, thearubigins, flavonoids and theabromine, are largely depleted in the process of the fermentation of dark teas such as Pǔ'ěr tea, and converted into other substances.[222] The depletion of catechins in Pǔ'ěr might be due to the fact that Pǔ'ěr tea is fermented so thoroughly, dried after pickling, stored for so long, or any combination of these factors. At any rate, the *mîang* เมี่ยง or pickled tea in northern Thailand, in contrast to Pǔ'ěr tea, evidently still retains many of the salubrious phenolic compounds such as the catechins.[223]

One of the purported health benefits of Pǔ'ěr tea is that it lowers the level of low-density lipoproteins (LDL) or 'bad' cholesterol in the blood in favour of the 'good' cholesterol. One study appears to show that triglyceride levels and the volume of adipose tissue in laboratory rats were reduced more effectively by Pǔ'ěr tea than by green tea.[224] Excessive nitric oxide production is involved in cellular damage and may possibly implicated in some forms of carcinogenesis. Pǔ'ěr tea has been observed to reduce nitric oxide levels in laboratory rats and this effect is exerted through a particular receptor, but it is unknown which particular substance contained in Pǔ'ěr tea is implicated.[225]

The findings of such studies still have to be corroborated by further research, and future investigations will have to take into account that research has already shown that no two batches of dark or 'black' tea (*hēichá* 黑茶) are alike.[226] Therefore, different types of dark tea as well as different individual batches of the same type of dark tea will be biochemically dissimilar and contain different compounds and metabolites from diverse fermentation processes.

2011. 'Fermented *Camellia sinensis*, Fu Zhuan tea, regulates hyperlipidaemia and transcription factors involved in lipid catabolism', *Food Research International*, 44 (9): 2999–3005.

217 Wei Xiaohui. 2010. 'Effect of different inoculation dosage of *Eurotium cristatum* on quality of green tea by solid-state fermentation', *Guìzhōu Agricultural Sciences*, 2010 (6): 82–84.

218 C.W. Hou, K.C. Jeng and Y.S. Chen. 2010. 'Enhancement of fermentation process in Pu-erh tea by tea-leaf extract', *Journal of Food Science*, 75 (1): H44–H48.

219 Haizhen Mo, Yang Zhu and Zongmao Chen. 2008. 'Microbial fermented tea: A potential source of natural food preservatives', *Trends in Food Science & Technology*, 19 (3): 124–130.

220 Zhenmei Luo, Tiejun Ling, Lixiang Li, Zhengzhu Zhang, Hongtao Zhu, Yingjun Zhang and Xiaochun Wan. 2012. 'A new norisoprenoid and other compounds from Fuzhuan brick tea', *Molecules*, 17: 3539–3546.

221 Zhang Hao, Li Hua and Mo Haizhen. 2010. 'Microbial population and antibacterial activity in Fuzhuan brick tea', *Bioengineering Food Science*, 31 (21): 293–297.

222 Gong Jiashun, Zhou Hongjie, Zhang Xinfu, Song Shan and An Wenjie. 2005. 'Changes of chemical components in Pu'er tea produced by solid state fermentation of sun-dried green tea', *Journal of Tea Science*, 4: 126–132.

223 Phromrukachat et al. (2010).

224 Mitsuaki Sano, Yasuharu Takenaka, Reiko Kojima, Shinichi Saito, Isao Tomita, Masaru Katou and Shigeo Shibuya. 1986. 'Effects of pu-erh tea on lipid metabolism in rats', *Chemical and Pharmaceutical Bulletin*, 34 (1): 221–228.

225 Yang Xu, Guan Wang, Chunjie Li, Min Zhang, Hang Zhao, Jun Sheng and Wei Shi. 2012. 'Pu-erh tea reduces nitric oxide levels in rats by inhibiting inducible nitric oxide synthase expression through toll-like receptor 4', *International Journal of Molecular Sciences*, 13 (6): 7174–7185.

226 Tao Wang, Xinliang Li, Haichao Yang, Feng Wang, Jiangping Kong, Dong Qiu, Zhen Li. 2018. 'Mass spectrometry-based metabolomics and chemometric analysis of Pu-erh', *Food Chemistry*, 268: 271–278.

FIGURE 2.63
Xíng 邢 ware bowl with a smooth translucent white glaze of the late 9th or early 10th century, late Táng dynasty or Five Dynasties period, diameter 16.5 cm
IMAGE COURTESY OF SOTHEBY'S, LONDON

Scented Teas, Herbal Infusions, Punch and Cocktails

Lù Yǔ advocated the abandonment of flavourings and proscribed the adulteration of tea. The sensibilities which he promulgated led to a move away from the smokeyness of *pʰaʔ³¹lap³¹* and the mustiness of dark tea to the pure taste of unadulterated tea. After his *Classic of Tea*, the development which Lù Yǔ helped to catalyse would continue, and the further refinement in olfactory sensibilities culminated in the purest of green teas and in the fine powdered green teas of the Sòng. These techniques of tea preparation would be transplanted to Japan, where the art of tea manufacture reached its logical culmination, and the purest taste of tea would be distilled. By contrast, in and around the original tea homeland, the antique practice of making a soup from tea leaves survives as an old culinary practice. Some of the modern types of preparing and serving tea hark back to these early practices and represent continuity with the past.

In Dàlǐ 大理, the Bái 白 people today serve a three-course tea. Anecdotally, the tradition is said to date from the Nánzhào 南詔 kingdom period (649–903 AD), when people in the south are described as preparing tea soup containing ingredients such as ginger, prickly ash, cinnamon, pepper and longan.[227] Yet the three-course tea practised by the Bái represents a fusion of the newer tradition of tea as a beverage with the flavourings of yore added. Three-course tea is served to foreign dignitaries, or to anybody and everybody during the annual lantern festival. In his account of his travels in Yúnnán, Xú Xiákè 徐霞客 (1587–1641 AD) described the first round of tea in Dàlǐ as clear, the second as containing spices and salt, and the third as sweetened with honey.

In modern times, a typical three-course tea in Dàlǐ is served at a banquet, wedding or birthday and more usually consists of first a bitter tea, followed by sweetened tea and ending with a 'refreshing' tea. The bitter tea is usually a boiled infusion of black or red tea, the leaves first being baked beforehand in a clay pot. This practice of baking tea leaves in Dàlǐ is claimed to be of great antiquity. The sweetened tea contains sesame seeds, walnuts, brown sugar and little fans made of dairy cream. The third course involves pouring the tea into cups already containing a few peppercorns,

227 In territorial terms, the Dàlǐ kingdom (937–1253), based in Dàlǐ 大理 and covering most of today's Yúnnán province and adjacent portions of Sìchuān and Guìzhōu provinces and neighbouring portions of Burma, Laos and Vietnam, succeeded the earlier Nánzhào kingdom (649–903), which arose in Wēishān 巍山, with the capital later moving to Tàihé 太和, the site of which is now located within greater Dàlǐ. Despite a turbulent interregnum and the transition from a Nánzhào elite, probably speaking one or more Loloish languages, to a Bái speaking elite at Dàlǐ, the veneration of Mahākāla and numerous Buddhist traditions in this area evince considerable cultural continuity (Megan Bryson. 2012. 'Mahākāla worship in the Dali kingdom (937–1253): A study and translation of the *Dahei tianshen daochang yi*', *Journal of the International Association of Buddhist Studies*, 35 (1–2): 3–69; Megan Bryson. 2017. 'Between China and Tibet: Mahākāla worship and esoteric Buddhism in the Dali kingdom', pp. 402–428 in Yael Bentor and Meir Shahar, eds., *Chinese and Tibetan Esoteric Buddhism*. Leiden: Brill).

several slices of fresh ginger, pieces of dried longan and a bit of honey or brown sugar.[228]

The practice of adding flavourings and preparing tea as a soup is distinct from pickled tea and smokey tea stored in bamboo internodes. Even after tea emerged as a beverage, there were those who continued to add flavourings. As a soup, tea was originally often flavoured with garlic and all sorts of spices. The gradual process of rarefication into an unadulterated infusion of pure tea leaves was set into motion during the Táng dynasty and documented by Lù Yǔ. In the sixth section of his *Tea Classic*, Lù Yǔ does not mince words when it comes to the adulteration of tea with flavourings.

> Sometimes onion, ginger, jujube, tangerine peel, Szechwan pepper (*Zanthoxylum piperitum*) or peppermint are added, and then the tea is vigorously boiled, and then the froth is skimmed off of the boiling infusion. The resultant brew is no better than what flows through the gutters of the sewer.[229]

Certainly Lù Yǔ's words of condemnation might still be invoked in the case of the overwhelmingly flavoured teas available today in many Western supermarkets, made from fully oxidised brown tea of mediocre quality and then mixed with overpowering strawberry or other fruit flavours, but this is not what Lù Yǔ was writing about.

What Lù Yǔ compared to the swill of the gutters and ditches was the boiled tea that was still prepared in his day as a leafy soup along with other spicy condiments and flavourings. This practice persisted long after Lù Yǔ. It took many centuries before the original Hàn dynasty practice of cooking tea leaves by boiling (*pēng tú* 烹荼 'boil herb') and the elaborate Sòng dynasty ritual of preparing powdered tea (*diǎn chá* 點茶 'specks tea') were succeeded by the technique of steeping pure tea leaves (*páo chá* 泡茶 'steep tea'), which would gain general currency during the Míng.[230] Originally, boiled tea leaves were most commonly served as a soup, or the boiled infusion was used to make the stock of a congee. A food canon written during the Southern Sòng (1127–1279) lamented the popularity of tea soups containing salt, fruits, scallions and plums. A later food canon from the Yuán dynasty (1271–1368) provides recipes for tea congees to which mung beans, rice, the flowers or fruits of the matrimony vine *Lycium barbarum*, sesame and Sìchuān pepper are added as well as recipes for flavouring tea leaves with camphor from Borneo or with musk.[231]

In China, the tradition of flavouring teas with subtle and sometimes not so subtle fragrances is therefore old and persisted long after the practice had been despised and dismissed by Lù Yǔ. Once tea had been made into a pure beverage in its own right in Zen monasteries and then popularised by Lù Yǔ during the Táng, then the more subtle art of scenting pure tea leaves with flowers could be innovated in the Sòng. The practice became especially popular during Mongol rule under the Yuán dynasty, from which period recipes can be found for tea flavoured with cassia flowers, orange flowers, jasmine flowers, orange peels, tangerine peels, lotus blossom, orchids, gardenia and plum.[232] The flowers or zest are usually, but not always, removed from the tea after the leaves have acquired the scent. For scented and flavoured teas it is often recommended to use a glass teapot because glass retains no trace of the aroma.

Osmanthus tea (*guìhuā chá* 桂花茶) is a traditional tea scented with the flowers of *Osmanthus fragrans*. These flowers impart a subtle fragrance to the tea, often yielding a harmonious blend with fine oolong tea, and are also believed in Chinese medicine to have therapeutic value in regularising irregular menstruation or alleviating the transition

228 Dali Cangshan Gangtong Tourist Cable Car Company. 2001. 'Introducing three-course tea culture', *ICOS*, 1 (1): 78–82.
229 Carpenter (1974: 116); Chevaleyre (2004: 67); Jiāng and Jiāng (2009, I: 44–45).
230 Huáng (2000: 555, 559, 560).
231 Huáng (2000: 561–562, 553).
232 Huáng (2000: 553).

of menopause. The most famous Chinese scented tea is no doubt jasmine tea, which sometimes just goes by the name *xiāng piàn* 香片 'fragrant bits'.[233] Jasmine tea (*mòlìhuá chá* 茉莉花茶) is a green tea scented with jasmine flowers from Fukien. This tea ostensibly cools down the body. The variety Big Jasmine (*dà mòlìhuá chá* 大茉莉花茶) is also believed to confer longevity upon the drinker, but of course this is not the only variety of tea for which this claim has been touted.

A number of flavoured teas are delicately scented with orchids (*lán xiāng* 蘭香). A lovely green tea in this genre is Mount Méng Snow Orchid (*méngdǐng xuělán* 蒙頂雪蘭), which is mildly scented with orchids. Chrysanthemum tea is familiar from Chinese restaurants and dimsum eateries in Europe by its Cantonese name *guk*^{1}*faa*^{1} 菊花 [kʊk ˥ fa: ˥] 'chrysanthemum' tea. Chrysanthemum tea is reputed to give protection against fever blisters or cold sores and alleviate stress and anxiety.

Not all scented teas are made with flowers. The root of ginseng *Panax ginseng* is combined with oolong tea dust and squeezed into pellets to give ginseng oolong tea (*rénshēn wūlóngchá* 人蔘烏龍茶). The Formosan version uses high quality oolong leaves rather than medium quality dust, and first scents the tea leaves with osmanthus flowers and then coats them with finely ground ginseng root. Some people even add fine ginseng powder to the Japanese powdered green tea known as *matcha*. Some people still add dogwood berries (*zhūyú* 茱萸茶) to tea, but this antique practice is not widespread. Lychee tea (*lìzhīchá* 荔枝茶) is a lovely sweet aromatic tea made from black tea scented with lychee peels.

Manufacturers of scented teas quickly caught on that the strong taste of jasmine, rose or osmanthus could disguise the flavour of inferior quality tea. The extravagantly flavoured Eight Treasures tea (*bābǎochá* 八寶茶) consists of green tea and eight dried ingredients: jasmine, chrysanthemums, jujube (*Ziziphus jujuba*), fungus of the genus *Tremella*, Chinese wolfberries (*Lycium barbarum*), longan (*Dimocarpus longan*), raisins and rock sugar. This cacophonously flavoured concoction is purportedly good against hangovers.

In the 1990s, the Swedish tea entrepreneurs Kenneth Rimdahl and Per Sundmalm converted Spain from a nation with very little interest in tea into a country with many more tea drinkers than before. They used scented and flavoured teas to lure the modern Spanish palate into venturing into finer leaf teas and so gradually to introduce many Spanish tea drinkers to pure teas of higher quality. Their East West Company now has more than 50 shops and imports over 100,000 kg of tea to Spain annually. Today, now based in northern Thailand, Rimdahl composes subtle blends of naturally flavoured teas, eschewing tea of mediocre quality and using only the finest leaf teas, including the lovely new Siamese oolongs. He augments their bouquet of fragrances with natural flavours such as the traditional osmanthus and jasmine flowers, but also experiments with unexpected and subtle aromas. One of his blends is reminiscent of *l'eau d'Issey* by Issey Miyake. Rimdahl's ever evolving repertoire of exquisitely scented teas appears to simulate a perfume gallery.

In Paris, Mariage Frères, alongside their fine pure teas, offers a large and varied repertoire of flavoured teas, ranging from scented black teas, such as their warmly fragrant and subtly spiced French Breakfast, to flavoured green teas, such as their Japanese green tea Sakura, strongly scented with Japanese cherry blossoms and rose petals. This new genre of scented teas is certainly not the swill of the gutters so contemned by Lù Yǔ. Yet flavoured teas are still often disdained by tea purists.

As distinct from the genre of flavoured and scented teas, a Pandora's box is opened once it comes to concocting tea-based drinks. Fruit juice teas (*shuǐguǒ chá* 水果茶) can be made like the fruit teas of the West, by scenting black tea with bits of fruit. However, the more robust Chinese renditions are essentially non-alcoholic fruit punch made with green, oolong or black tea mixed with fruit juice and bits of fresh fruit.

233 Huáng (2000: 554).

This brings us to punch itself. In the 17th century, whilst the Dutch were importing tea to Europe, the British imported the habit of drinking punch from India. The name *punch* derives from Hindi *pāñc* पाँच 'five' because the original drink contained five ingredients, i.e. spirits, water, citrus juice, sugar and spices. In 1691, Simon de la Loubère, the French ambassador to the court of Àyútthâya: อยุธยา, reported that even in Siam the English drank their punch whilst taking little interest in the tea drunk by Siamese courtiers.

> Les Anglois habituez à Siam ufent d'une boiffon qu'ils appellent *Punch*, & que les Indiens trouvent fort délicieufe. On met une chopine d'eau de vie ou d'Arak, fur une pinte de limonade avec de la mufcade & un peu de bifcuit de mer grillé & pilé, & l'on bat le tout enfemble jufqu'à ce que le liqueurs foient bien mêlées. Les François ont appelé cette boiffon *boule-ponche* & *bonne-ponche*, de ces deux mots Anglais *boul punch*, qui veulent dire une *taffe de ponche*.[234]

> The *Englifh* inhabiting at *Siam* do ufe a drink which they call *Punch*, and which the *Indians* do find very delicious. They put half a pint of Brandy or *Arak*, to a pint of Limonade with Nutmeg and a little Sea Bisket toafted and broke, and beat it all together until the Liquors be well mixed. The *French* call this drink *Boule Ponche*, and *Bonne Ponche*, from the two *Englifh* words, a Bowl of Punch.[235]

In the early 18th century, the spirits were replaced by rum. After the advent of tea in Britain, this then still quite expensive commodity only gradually found its way into the punch bowl, and then the spices were replaced by tea. One part rum was added over lemons and lemon peels. Then sugar and nine parts strong hot tea were added to the bowl of punch. The French also added cognac to their *bolle-ponche*, and since those early days many variations of punch have come to exist today. The rum can be substituted by various grain alcohols, and fruits juices of various descriptions can be added. Tea is even sometimes omitted altogether, as in the original punch.

A grog was a mixture of rum, lemon juice and hot water, ostensibly introduced to the Royal Navy in 1740 by admiral Edward Vernon to convert the sailors' rum ration into a means of preventing scurvy. Vernon was known as Old Grog after the grogram cloak he wore. The practice of substituting the hot water with hot tea was innovated in Belgium or France, where a heavily tea-laden grog is still used by some as a pick-me-up in the cold of winter.

At the end of the Táng period, Wáng Fū 王敷 wrote his famous *Dialogue between Tea and Wine* (*Chá jiǔ lùn* 茶酒論), in which tea and wine quarrel about their relative merits and demerits. As depicted in Charles Dickens' *Pickwick Papers*, women in temperance unions who proscribed the use of alcohol were themselves intemperate drinkers of tea.[236] In the 19th century, the expressions *teetotaler* and *teetotalism* entered the English language denoting both those who categorically abstained from alcohol as well as the school of thought which they espoused. What do teetotalers then make of punch and grog in which tea and alcohol are combined?

The market has long since begun to cater to those enamoured of both a tipple and the taste of tea. Suntory produces a Zen green tea liqueur, a Hermes green tea liqueur and a *matcha* scented

234 Simon de La Loubère. 1691. *Du Royaume de Siam par Mons*R *de La Loubere, Envoyé extraordinaire du Roy aprés du Roy de Siam en 1687 & 1688* (deux tomes). Amsterdam: Chez Abraham Wolfgang, prés de la Bourfe (Vol. 1, pp. 66–67).

235 Simon de La Loubère. 1693. *A new Hiftorical Relation of the Kingdom of Siam, by Monfieur De La Loubere, Envoy Extraordinary from the French King, to the King of Siam in the Years 1687 and 1688* (two volumes). London: Printed by F.L for Tho. Horne at the Royal Exchange, Francis Saunders at the New Exchange and Tho. Bennet at the Half-Moon in St. Pauls Church-yard (Vol. 1, p. 23).

236 Charles Dickens. 1836. *The Posthumous Papers of the Pickwick Club*. London: Chapman and Hall.

FIGURE 2.64 Green tea liqueurs on sale in a shop across from the Kyōto railway station main entrance

liqueur called *matcha kaoru o-sake* 抹茶香るお酒. In Japan, *yowa no midori* 夜半のみどり 'midnight green'[237] makes a green tea liqueur on the basis of *matcha* from Uji 宇治 in combination with pure rice sake as well as an Uji *matcha* liqueur in combination with Aoya 青谷 plum wine. In collaboration with Tamba 丹波 winery in Kyōto, they also produce a *vin au thé vert*, in which the finest powdered tea from Uji is combined with white wine.

Fauchon in Paris produces a *liqueur de thé* on the basis of fine Darjeeling tea, and a Darjeeling tea liqueur is produced by Gabriel Boudier in Dijon, whilst Josie produces tea liqueurs in the flavours Darjeeling, Earl Grey and jasmine. In Holland, Bols produces both a green tea and a sweet black tea liqueur. Tiffin tea liqueur is produced by Anton Riemerschmid in Erding near Munich. In San Francisco, Qi produces a black Lapsang Souchong tea liqueur, and a sweet tea liqueur is produced by Jeremiah Weed in Kentucky.

From Louisiana, the Sazerac company markets a sweet tea vodka called Sweet Carolina, either straight or with added flavours such as mint, peach, raspberry or lemonade. In the Hunter valley of New South Wales, Hunter distillery markets a black tea vodka called Longleaf, distilled from Ceylonese black tea. Tempest produces a botanical absinthe liqueur, in which green tea and black tea are just two of the ingredients alongside the flavourings wormwood, fennel, sage and eucalyptus.

The most famous of tea cocktails is the one that is not a tea cocktail at all. Long Island Iced Tea was designed to look like a tall glass of iced black tea but contains no tea whatsoever. The drink originated in the United States during Pro-

237 In Japan, some people are inclined to read the word 夜半 on the label as やはん *yahan*, but the manufacturer insists upon the less frequent reading よわ *yowa*.

hibition (1920–1933) in order to create a cocktail that could masquerade as iced tea. Real tea cocktails exist, such as the Roman Tea cooler, made from limoncello, jasmine tea and ginger, Absolut Wildflower, made from black tea, vodka and elderflower, or Iced Green Tea mojito. Some bars have created cocktails which combine strong Earl Gray tea with gin or blend bourbon with Pǔ'ěr tea or with sweetened black tea. Five tea cocktails were described by Wina Born in 1979.[238]

Formerly in Madrid and currently in Chi:ang Mài, Kenneth Rimdahl prepares a wonderful champagne oolong punch. After half a litre of infused aromatic oolong tea has been allowed to cool down, two tiny spoons of brown sugar and the juice of one orange or, alternatively, the juice of one lime are added. The tea is stirred and allowed to chill in a refrigerator. Before serving the punch in champagne glasses, the chilled oolong is mixed with chilled champagne. The punch can be served to large groups, and one need merely remember: one part chilled fragrant oolong to two parts champagne. In Paris, Mariage Frères serves champagne with the addition of various tea essences as a component of some of their brunch menus.

Some tea lovers object to the English expression *herbal tea* because an infusion made from herbs, and not the leaves of the tree *Camellia sinensis*, is not properly speaking tea at all.[239] For such language purists, the French word *tisane* is available for use in English. Because of the way that the first syllable of the word *tisane* is pronounced, an English speaker might be led to suppose that the French word comes from the English word *tea* itself or that the French term might at least be etymologically related to English *tea*. In fact, the words are unrelated. The French *tisane* derives from Greek *ptisánē* πτισάνη 'pearled barley' via Latin *ptisana* or *tisana*.

In ancient Greece, a hot medicinal brew was made from ground or crushed barley that was used against fever. The Greek name *ptisánē* πτισάνη 'pearled barley', which derives from the verb *ptissô* πτίσσω 'to peel, pound or bray in a mortar', was also used to refer to the warm barley water that was made from the pearled barley.[240] The medicinal use of *ptisana* in antiquity was described by Bauhin in 1658.[241] Whatever medicinal qualities were imputed to this nourishing warm brew by the ancients, modern research has at least established that barley tea helps reduce the film of *Streptococcus mutans* coating the buccal cavity, thereby improving dental health and perhaps even cardiovascular health.[242]

Yet even the Chinese word for tea on occasion gets used loosely to refer to a herbal infusion other than that of *Camellia sinensis*. Bitter stick or bitter nail tea (*kǔdīng chá* 苦丁茶) is not a tea, although even the Chinese name misleadingly contains the word *chá* 茶. This medicinal infusion is made from the leaves of the tree *Ilex latifolia* and the closely related *Ilex kudingcha*. The twisted and dried leaves have the appearance of nails or short twigs. The tree can grow up to eight metres in height. The tree also grows outside of China, for example in the Vietnamese province of Cao Bằng. In Japan, the leaves of the tree *Ligus-*

238 'Recepten met thee', blz. 146–154 in Johannes Rein ter Molen. 1979. *Het goede leven: Thee*. Utrecht: Het Spectrum.

239 Even natural herbal teas can be a cause of concern. Today, in industrialised countries, salads, honey and *tisanes* or herbal teas containing fennel, melissa, *Echium* and other herbs have been shown often to be contaminated with pyrrolizidine alkaloids. This class of naturally occurring secondary plant metabolites acting as defence compounds against herbivores exhibit hepatotoxic as well as genotoxic activity and have recently become a topic of investigation (Inga Mädge, Luise Cramer, Ines Rahaus, Gerold Jerz, Peter Winterhalter and Till Beuerle. 2015. 'Pyrrolizidine alkaloids in herbal teas for infants, pregnant or lactating women', *Food Chemistry*, 187: 491–498).

240 The Greek *ptisánē* πτισάνη for pearled barley as well as the warm beverage derived therefrom is distinct from *krīthḗ* κρīθή, the Attic word for barley.

241 Casparus Bauhinus (1658: 449–453).

242 Monica Stauder, Adele Papetti, Maria Daglia, Luigi Vezzulli, Gabriella Gazzani, Pietro E. Varaldo, Carla Pruzzo. 2010. 'Inhibitory activity by barley coffee components towards *Streptococcus mutans* biofilm', *Current Microbiology*, 61 (5): 417–421.

trum expansum are used to make a caffeine-free version. This medicinal concoction purportedly enhances memory, alleviates toothaches and headaches and is good against a panoply of other ills. Bitter nail infusion contains flavonoids with antioxydant properties and is also supposed to combat hypercholesterolaemia and atherosclerosis,[243] but real green tea has in fact been found to be more effective in reducing cholesterol levels.[244] The more interesting claims about this infusion of holly leaves are those pertaining to the purported anti-carcinogenic activity of the triterpenoid saponins which it contains.[245]

In China, there is also an infusion that is prepared from the young shoots and leaves of the tree *Litsea coreana*, a member of the laurel family, which is called 'old eagle' tea (*lǎoyīngchá* 老鷹茶). This medicinal infusion was traditionally used in Chinese medicine as an antihelminthic and antipyretic, but this herbal tea continues to be drunk in southern China as a refreshing beverage. This herbal infusion is not a tea in the strict sense, but a herbal tea or *tisane*. Old Eagle tea contains flavonoid compounds with a free radical scavenging activity.[246] More generally, an infusion of medicinal plants may be referred to by the term *yàochá* 藥茶 'medicinal tea'.[247]

Another popular 'tea' that is not a tea at all is South African *rooibos* 'red bush' tea. The herb *Aspalathus linearis* grows in South Africa's natural scrubland or *fynbos*. Commercial *rooibos* is mostly grown at Cederberg. Rooibos contains no caffeine and was originally drunk by poor Boers who could not afford expensive imported tea. Wholesome properties are nonetheless imputed to rooibos. Ostensibly the infusion is good for the skin. Rooibos contains minerals such as zinc, magnesium and copper and even a modicum of vitamin C. Most of the latter does not, however, remain intact in hot water. Antioxidant properties are also ascribed to rooibos tea. The existence of *rooibos* should not lead people to think that South Africa does not produce its own real tea as well, for South Africa does so too, albeit on a modest scale.

Yerba maté is a bitter Latin American rainforest herb which contains caffeine. In Paraguay, Uruguay, Brazil, Chile and Argentina, the drink is prepared in a hand-carved gourd and drunk with a silver straw called a *bombilla* which has a strainer at the bottom to filter out the leaves. The infusion of maté is usually made from the leaves of the tree *Ilex paraguariensis*. In Ecuador, maté is brewed from the leaves of guayusa *Ilex guayusa*. Particularly in Peru and Bolivia, maté can also be brewed from coca leaves of the tree *Erythroxylon coca*, promoted in France in the 1890s as *le vin des Incas*. Some of the silver and glass *bombillas* from the 19th century are exquisite works of art, and this South American tradition has yet to receive much global recognition.[248] The drink contains a modicum of vitamin B_1, some proteins, carbohydrates and fatty acids, but people drink yerba maté mostly for the caffeine.

243 Li Li, Li J. Xu, Gui Z. Ma, Yin M. Dong, Yong Peng, Pei G. Xiao. 2013. 'The large-leaved Kudingcha (*Ilex latifolia* Thunb and *Ilex kudingcha* C.J. Tseng): A traditional Chinese tea with plentiful secondary metabolites and potential biological activities', *Journal of Natural Medicines*, 67: 425–437; Ting Hu, Xiaowei He, Jianguo Jiang and Xilin Xu. 2014. 'Efficacy evaluation of a Chinese bitter tea (*Ilex latifolia* Thunb.) via analyses of its main components', *Food and Function*, 5: 876–881.

244 Luo Xianyang, Li Nana and Liang Yuerong. 2013. 'Effects of *Ilex latifolia* and *Camellia sinensis* on cholesterol and circulating immune complexes in rats fed with a high-cholesterol diet', *Phytotherapy Research*, 27: 62–65.

245 Xin Zhao, Qiang Wang, Yu Qian and Jiale Song. 2013. '*Ilex kudingcha* C.J. Tseng (Kudingcha) has *in vitro* anticancer activities in MCF-7 human breast adenocarcinoma cells and exerts anti-metastatic effects *in vivo*', *Oncology Letters*, 5: 1744–1748.

246 Yang Jian, Xie Jinping and Huang Youyi. 2001. 'Flavonoid compounds in Laoying tea (*Litsea coreana* Levl. var. Lanuginosa (Migo) Yang et P.H. Huang)', *ICOS*, 1 (11): 319–322.

247 Éric Marié. 2008. 'Introduction aux propriétés thérapeutiques du thé chinois', pp. 109–122 in Raibaud and Souty (op.cit., p. 110).

248 Virginie de Borchgrave. 1999. 'Un art de vivre méconnu: Le thé en Amérique latine', pp. 189–205 in Barrie and Smyers (op.cit.).

CHAPTER 3

Tea Arrives in Japan and Korea

Tea Comes to the Land of the Rising Sun

It is held that tea was first drunk in Japan during the Nara 奈良 period (710–784), but tea seeds were first planted in Japan in the later Heian 平安 period (794–1185). Both periods coincide with the Táng dynasty period in China. A text dating from 729 recounts that a gift of tea was sent from the Táng court to emperor Shōmu 聖武 (*imperabat* 701–756), who served this novel infusion to a throng of one hundred monks who had come to his palace at Nara 奈良 to recite the *Mahāprajñāpāramitā Sūtra*. Later texts record that the practice of *incha* 院茶 'cloister tea', which involves the serving of tea to monks, was performed during the Jōgan 貞觀 era (859–876) on the second day of the four-day sūtra recitation at the court, and that this custom had first been adopted in 729 under emperor Shōmu.[1]

Lù Yǔ died in China in 804, and in the same year the Japanese monk Saichō 最澄 (767–822) sailed to China, making landfall at Níngbō 寧波. Saichō travelled to the monastery on Mount Tiāntái 天台 in Zhèjiāng 浙江, where he studied at the feet of Dào Suì 道邃. Imbued with the Buddhist teachings of the Tiāntái school, Saichō founded the Tendai 天台 school of Buddhism when he returned to Japan in 805. It is said that, along with this particular strain of Buddhism, Saichō brought back tea seeds with him from China. After his death, Saichō became known by the honorary title of *dengyō daishi* 伝教大師 'great preceptor of the doctrine'.

In 804, at the same time as the ship carrying Saichō set sail for China, the vessel carrying the younger monk Kūkai 空海 (774–835) also sailed to China. However, Kūkai's ship made landfall further south in Fukien. Kūkai travelled to the capital of Cháng'ān 長安, where he studied Buddhist scriptures at the Blue Dragon temple (*qīnglóng* 青龍) from master Huìguǒ 惠果 and at the temple of Western Brilliance (*xīmíng* 西明) from the Gandhāran *paṇḍit* Prajñā प्रज्ञा. Two years later, in 806, Kūkai returned to Japan, likewise bearing tea seeds. Kūkai founded the Shingon 真言 school of Buddhism, and in 809 he became a protégé of emperor Saga 嵯峨 (*imperabat* 809–823).

As recorded in the imperially commissioned anthology of Chinese poetry entitled *Ryōunshū* 凌雲集, compiled in 814, and in the history *Nihon Kōki* 日本後紀 'Notes on Japan', completed in 840,[2] the then 72-year-old monk Eichū 永忠 (743–816) also brought back tea with him from China in 815 in the form of *dancha* 団茶, i.e. fermented brick tea. Eichū became a priest at Bonshakuji temple 梵釈寺 in Ōmi 近江 province, where he served tea to the visiting emperor Saga 嵯峨. The emperor evidently liked the tea because Saga mentioned tea in a few of his own poems,[3] and in 816 the emperor decreed that tea trees would be cultivated in the Kinki 近畿 region around Kyōto. Tea gardens were established, and tea began to be manufactured for the use of physicians at the imperial court. The consumption of tea was at this time still restricted to imperial and monastic ritual, and tea had not yet become a beverage for the common man. Moreover, tea was at this time still steamed, shredded and then compacted into tea bricks.

The now obsolete Japanese ideogram *kyō* 茶 evidently denoted tea used as a medicine in the *Ishinpō* 医心方, the oldest Japanese medical text, written by Tamba no Yasuyori 丹波

1 Sen Sōshitsu XV. 1998. *The Japanese Way of Tea from Its Origins in China to Sen Rikyū* (translated by V. Dixon Morris). Honolulu: University of Hawai'i Press (p. 48).

2 Franziska Ehmcke. 1991. *Der japanische Teeweg: Bewußtseinsschulung und Gesamtkunstwerk*. Köln: Dumont (p. 15).

3 Sen (1998: 49).

FIGURE 3.1
The Japanese monk Saichō 最澄 (767–822), Heian period, 11th century, collection of the Hokkesan Ichijō temple 法華山一乗寺 at Kasai 加西 in Hyōgo 兵庫 prefecture

康頼 in 982.[4] This text preserves medical lore from long lost sources, including the lost Táng dynasty source *Shénnóng's Alimentary Classic* (*shénnóng shíjīng* 神農食經).[5] The *Ishinpō* existed in very few copies and was later sequestered, but a copy of the manuscript was preserved by the Nakarai 半井 family. This particular character *kyō* 荼 denoting tea used as a medicine is not found in any extant Chinese sources, although the similarity of this nonce ideogram in the Japanese text with the character depicted in Figure 2.4 will not have escaped the reader's attention.

Courtly culture during the Heian period was characterised by *miyabi* 雅 'courtly elegance' and *mono no aware* 物の哀れ (もののあはれ) 'poignant wonder at the ephemeral nature of things'.

4 Iwama (2004).
5 This lost Chinese text is also mentioned in the *Compendium of Materia Medica* (*běncǎo gāngmù* 本草綱目), written during the Míng dynasty by 李時珍 Lǐ Shízhēn (1518–1593), in the section pertaining to *mǐng* 茗 (Marié 2008 in Raibaud and Souty, op.cit., p. 113).

FIGURE 3.2
The monk Kūkai 空海 (774–835), often referred to as *kōbō daishi* 弘法大師 'the great preceptor of Buddhist doctrine', detail from hanging painting dated 1314, colour on silk, Tōkyō National Museum

Tea gatherings were often accompanied by music, and tea at court was sometimes flavoured or sweetened. In the second half of the 9th century, as Táng dynasty China went into decline, the Japanese fascination for Chinese culture waned. Japanese embassies to Táng China ceased in 894 and resumed only much later under Taira no Kiyomori 平清盛 (*obtinebat* 1118–1181). Tea culture all but vanished, with tea leading a marginal existence in monasteries and as a medicinal tonic. Tea was still grown on the grounds of the imperial palace and in the garden of Yakuō temple 薬王寺 in Mikawa 三河 province.

Tea Comes to Japan yet Again

The monk Myōan Eisai 明菴栄西 was born in 1141 at Kibitsu 吉備津, which is located in today's Okayama prefecture. His given name 栄西 is pronounced both as Eisai えいさい and, more popularly, as Yōsai ようさい. In 1168, at the age of 27, Eisai first went to China, where he studied Zen Buddhism on Tiāntāi 天台 mountain in Zhèjiāng for six months. Eisai also twice visited the Jìngshān 徑山 temple, established by Fǎ Qīn 法欽 at the foot of Tiānmù 天目 mountain in Zhèjiāng. After his sojourn on Tiāntāi mountain, he returned to

FIGURE 3.3
The emperor Saga 嵯峨 (*imperabat* 809–823), 14th century portrait, 128.7 × 68.7 cm, Imperial Collection 御物, Tōkyō

Japan to preach Tendai 天台 Buddhism. In 1187, at the age of 46, Eisai returned to China a second time for a stay of four years to continue his study of Zen at the Jǐngdé 景德 temple in Sūzhōu 蘇州, and it is Eisai who is credited with having introduced Zen to Japan.

The Japanese term *zen* 禅 derives from Chinese 禪 *chán*, which is a sinification of Sanskrit *dhyāna* ध्यान 'attention, focus, concentration'. Zen is a form of *Madhyamaka* Buddhism that has been practised in China since the 7th century. This school of Buddhism was influenced by the *Prajñāpāramitā* literature and by *Yogācāra* practice. The largest and most famous school of Zen Buddhism in Japan is Rinzai 臨済, which was founded at the Línjì 臨濟 temple in Zhèngdìng 正定 in today's Héběi 河北 province by a monk who is remembered solely by the monastic name of Línjì Yìxuán 臨濟義玄, which he took when he moved into the temple. The Japanese rendition of this name is *Rinzai Gigen*. This monk hailed from the town of Cáozhōu 曹州, which is now no more than a neighbourhood

FIGURE 3.4 Kennin temple 建仁寺 was founded in 1202 as the first Zen temple in Japan by the tea preceptor Myōan Eisai 明菴栄西 (1141–1215), whose given name is popularly also pronounced as Yōsai ようさい.

within the sprawling city of Hézé 菏澤 in today's Shāndōng province. After a life of learning and seeking, he moved into the Línjì temple in the year 851 and preached there until his death in 866.

It was just over three centuries later that Eisai studied the precepts of the Rinzai school at Sūzhōu from 1187 to 1191. The sect which Rinzai founded would remain a marginal school in China during the Táng and Sòng dynasties, but, after Eisai returned from China in 1191, he established the Rinzai sect in Japan, where it ultimately became the largest school of Zen Buddhism. In 1200, the Jufuku temple 寿福寺 became the first Zen temple in Kamakura 鎌倉, built by Hōjō Masako 北条政子 (1156–1125) in honour of her deceased husband, the first Kamakura *shōgun* Minamoto no Yoritomo 源頼朝 (*obtinebat* 1192–1199), and Eisai was appointed as its founding priest. Later in 1202, Eisai was also appointed as the founding priest of the Kennin temple 建仁寺, Kyōto's first Zen temple, funded by the second *shōgun* Minamoto no Yoriie 源頼家 (*obtinebat* 1202–1203). By the time that the Kennin temple was completed in 1205, Yoriie's younger brother Sanetomo 実朝 had become the third *shōgun* of the Kamakura shōgunate (*obtinebat* 1203–1219).

In recognition for his temple restoration work, Eisai was later granted honorary titles in Kyōto by emperor Go-Toba 後鳥羽 (*imperabat* 1183–1198), but Eisai's actual patrons were the warrior rulers of Kamakura. The flourishing of Japanese tea culture during the Kamakura 鎌倉 period (1185–1333) was closely tied with the rise and spread of the Rinzai school of Zen, for tea was imbibed by monks

FIGURE 3.5
View of the rock garden from the abbot's chamber 方丈 *hōjō* at Kennin temple, looking south

to enhance their Zen meditation by keeping the practitioner alert but serene. Eisai also brought back to Japan tea seedlings from China, and he planted the seedlings at Fushun-en 富春園 'the garden of abundant spring' near Hirado 平戸, at Seburiyama[6] 脊振山 in Hizen 肥前 province and at the Shōfuku temple 聖福寺 at Hakata 博多 in Chikuzen 筑前 province on Kyūshū as well as in and around Kyōto, where he founded the majestic Kennin 建仁寺 temple. It was a great stroke of good fortune for mankind that Eisai returned to China for a second time because, when he returned, he introduced to Japan not just Zen but also powdered green tea or *matcha*.

Consequently, a great debt owed to this prominent Zen monk is the survival of the Sòng dynasty practice of drinking powdered tea or *mǒchá* 抹茶, which came to be known in Japan as *matcha* 抹茶. In fabricating this tea, the oxidation process was arrested by steaming the leaves rather than parching, a method still widely used in Japan, not just in the manufacture of green powdered tea but also in the fabrication of much Japanese green leaf tea.

6 Seburiyama 脊振山 (せぶりやま) is also pronounced Sefurisan (せふりさん).

FIGURE 3.6
View of the rock garden from the abbot's chamber 方丈 *hōjō* at Kennin temple, looking west

Green tea manufactured by steaming the tea leaves appears to retain more total antioxidant capacity than green tea produced by parching the leaves in a pan.[7]

The transfer of this wonderful practice to Japan led to the preservation and further refinement of this sophisticated method of preparing tea, which fell into disuse in its country of origin after China was overrun by martial Altaic peoples and came under the ruling clans of the Khitan, Jürchen and Mongol empires during the Liáo 遼 (907–1125), Jīn 金 (1115–1234) and Yuán 元 (1271–1368) dynasties respectively. At this time, tea bowls in the dark *tenmoku* 天目 glaze, characteristic of the celebrated Sòng dynasty Jiàn 建 ware, became prized possessions in Japan. The Japanese name for this type of Chinese blackware glaze harks back to Tiānmù 天目 mountain in Zhèjiāng, where Eisai studied Zen Buddhism in the 12th century.

7 Young-Kyung Kim, Seok-Hwan Kim and Joo-Hyun Baik. 2007. 'Evaluation of the total antioxidant capacity and catechins during the processing of green tea', *ICOS*, 3, HB-P-105.

FIGURE 3.7
The monk Myōan Eisai 明菴栄西 (1141–1215), as portrayed by Zekkai Chūshin 絶海中津 (Muromachi period, 93×38.5 cm, paint on silk), kept at Ryōsoku temple 両足院 in Kyōto and presumed to be the oldest depiction of Eisai in existence

FIGURE 3.8
This particular Jiàn 建 blackware tea bowl or *chawan* has been deemed a National Treasure of Japan, brought over from China during the Kamakura period (1185–1333), with its golden, silver and blue iridescent oil drops or *yuteki* 油滴 and its golden band along the rim, once owned by chancellor Toyotomi Hidetsugu 豊臣秀次 (*obtinebat* 1568–1595), Southern Sòng.
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

FIGURE 3.9
Jiàn 建 ware tea bowl with rabbit fur striations or *tùháozhǎn* 兔毫盏, which are known in Japanese as *nogime* 禾目 (のぎめ), changing from light brown to silvery blue as they drip downward, Southern Sòng dynasty, 12.2 cm, originally from the private collection of the apothecary who headed the Dōshōan 道正庵 pharmacy in Kyōto in the 17th century
IMAGE COURTESY OF SOTHEBY'S

Eisai encouraged the cultivation of tea trees and authored a treatise entitled *Kissa Yōjō-ki* 喫茶養生記 on the 'Health Benefits of Tea', published in two volumes in 1211 and 1214. This treatise was ostensibly written for the ailing and often hung-over Sanetomo 実朝, third Kamakura *shōgun* of the Kamakura shōgunate, whom Eisai nursed back to health with ministrations of tea in 1214. Eisai's influence weaned the *shōgun* off of alcohol and turned him into a tea drinker. Eisai did not depict tea merely as a stimulant to keep Zen practitioners awake during meditation. He also asserted that tea was a tonic promoting harmony throughout the whole body and taught that drinking tea promoted longevity. His treatise also gave practical advice on tea cultivation, manufacture and preparation. In addition to the reintroduction of tea to Japan, Eisai is credited with the institution of the ritual offering of tea to the Shintō deities known as *kencha* 献茶 and the Buddhist practice of tea serving *kūcha* 供茶.

In so doing, Eisai contributed to shaping the aesthetic sensibilities of the warrior class, steeping the *samurai* 侍, or *bushi* 武士, in what later would be dubbed teaism. Eisai's writings show that his general perception of tea was strongly medicinal. The organ with which he associated tea was the heart, and he held that the bitterness of tea was its most cherished and wholesome flavour.[8] Naturally, Eisai drew heavily on Chinese sources. His two main

8 Sen (1998: 69).

FIGURE 3.10
Tea bowl in the dark *tenmoku* 天目 (てんもく) glaze with oil spots or *yuteki* 油滴 pattern, fired at Shuǐjí 水吉 in northern Fukien during the Southern Sòng period, 12th to 13th century, Important Cultural Property, Kyūshū National Museum

FIGURE 3.11
Jiàn 建 ware tea bowl with coppery oil drops or *yóudī* 油滴, known in Japanese as or *yuteki* 油滴, morphing into bluish silvery hare fur or *nogime* 禾目, as these striations drip down along the iridescent black glaze, indented groove beneath the rim, bound by a white metal band, Southern Sòng dynasty, 12.4 cm, originally from a private Japanese collection
IMAGE COURTESY OF SOTHEBY'S

disciples were Gyōyū 行勇 and Eichō 栄朝, who furthered the spread of Zen Buddhism. Over a century after Eisai's death in 1215, the two most prominent centres of Zen in Japan would be established in Kyotō. The Daitoku temple 大徳寺 was founded in 1325 by Shūhō Myōchō 宗峰妙超, alias Daitō Kokushi 大燈國師 (1282–1337), and the Myōshin temple 妙心寺 was founded in 1342 by 関山慧玄 Kanzan Egen (1277–1361). Centuries later, these two centres would play a pivotal role once again in the Zen revival led by Hakuin Ekaku 白隠慧鶴 (1686–1769), from whom most modern Rinzai Zen traditions derive.[9]

9 Martin Collcutt. 1981. *Five Mountains: The Rinzai Zen Monastic Institution in Mediaeval Japan*. Cambridge, Massachusetts: Harvard University Press.

After Eisai's second visit to China, he famously gave three tea seeds to the poet and monk Myōe 明恵 (1173–1232) at Kōsan temple 高山寺 at Toganoo 栂尾 (とがのお) in Kyōto.[10] The original dark moss green persimmon-shaped container bearing the seeds is still kept at Kōsan temple under the name *kaki no heta chaire* 柿蔕茶入 (かきのへたちゃいれ) 'persimmon calyx tea container'. Myōe planted the trees in the temple garden, and he enumerated the 'ten virtues of tea', contending that tea has the blessing of all the deities, promotes

10 In Japanese, both the pronunciations *kōzan-ji* こうざんじ and *kōsan-ji* こうさんじ are in use for the name of the Kōsan temple 高山寺. The current *shitsuji* 執事 'custodian' of the temple, the monk Tamura Yūgyo 田村裕行, prefers the pronunciation *kōsan-ji* こうさんじ.

FIGURE 3.12
The monk Myōe 明恵 (1173–1232), as depicted on a painting on a silken hanging scroll preserved at Kōsan temple 高山寺

filial piety, drives away evil spirits, banishes drowsiness, keeps the five internal organs in harmony, wards off disease, strengthens friendship, disciplines both body and mind, tames the passions and grants a peaceful death. His enumeration clearly echoes earlier Táng dynasty work, such as treatise *The Ten Virtues of Sipping Tea* (*Yǐn chá shí dé* 飲茶十德) by Liú Zhēnliàng 劉貞亮.

Of more enduring value than Myōe's poetry is the fact that his cultivation of tea led to the establishment of the famous Japanese tea gardens in Uji 宇治. Initially, the tea from Toganoo was viewed as the most original and authentic tea with the highest status, and originally only tea from this garden was designated as being *honcha* 本茶 'true' or 'principal tea'. Later the importance of Toganoo as a source of tea would diminish, and the gardens of Uji, just 10 km southeast of Kyōto, would assume the first position.[11]

11 Sen (1998: 89).

FIGURE 3.13
The persimmon-shaped calyx or *kaki no heta chaire* 柿蔕茶入 (かきのへたちゃ いれ), which once bore the tea seeds that Eisai 栄西 (1141–1215) gave to Myōe 明恵 (1173–1232)
COURTESY OF TAMURA YŪGYO 田村裕行, CUSTODIAN OF THE KŌSAN TEMPLE 高山寺

These gardens are already named in the earliest European sources on Japan. Writing in the late 1570s, the famous Jesuit João Rodrigues, reported on the gardens at Uji.

> E posto que quazi por todo o Reyno o há na China, e Japão, com tudo a excelente, e estimada dos nobres, e ricos, e gente limpa, e de que uzão com hospedes graves, e na cerimonia do chanoyu, e de que os Senhores uzão em suas cazas. Tem no reyno postos particulares, e esses poucos em certa parte de alguma Provincia, ou reyno, assim na China como em Japão donde se deriva, e vay por todo o Reyno (Porque do particular, e ruim que ha por todo elle de que uza o povo não se faz conta, nem entra nas cortezias formadas). Na China somente há o mais excellente de todo na Provincia de Nankim, no estado, e cidade [blank] donde se leva para o Rey, e gente nobre, e na Provincia de Fokien, no estado, e Cidade de Kennynfú, em certo posto. E em Japão somente na Villa chamada Vgi, tres legoas distantes da Corte do Miyaco, donde se leva por todo o Reyno. As folhas do Châ que servem para beber são as tenrras, e novas, e as primeiras que brotarão na primavera em Março, no qual tempo se colhem, fazendo suas vindimeas como entre nós das uvas, com infinidade de gente que conhece a boa, e nova folha para a tomar, e a velha, e ruim para a deixar.[12]

12 Pinto (1954: 439–440).

For it is available throughout nearly all the kingdom both in China and Japan, with all things excellent it is highly esteemed by the nobles, the wealthy and the gentry, and it is offered to guests of importance and used in the ceremony of *chanoyu*, and used by the lords in their houses. There are particular localities in the kingdom, and these few places are located especially in certain parts of certain provinces, both in China and in Japan, whence it is cultivated and is distributed throughout the land (particularly because the poor quality stuff that is used by the common people is not held in any high regard, nor is it ever used in formal ceremonies). In China the most excellent of all is found only in the province of Nanking, in the state and city of [blank], whence it is furnished to the king and the nobility, and in the province of Fukien, in a particular locality in the city and state of Kienningfu 建寧府 (today's Jiàn'oū 建甌), and in Japan only in the town named Uji 宇治, at a distance of three leagues from the court at Miyako 都 (today's Kyōto 京都), whence it is distributed throughout the kingdom. The leaves of *châ* which are served to drink are the tender and fresh ones, and the first which flush in the spring in March, at which time they are picked, taking their harvest just as we do the grapes in our vineyards, with hordes of people who can recognise the good and the fresh leaf in order to pluck it and the old and inferior leaf in order to leave it out.

FIGURE 3.14
Kanbayashi Sannyū 上林三入 still grinds his fine *matcha* in the artisanal fashion on a traditional stone mill, but the mill is driven by a mechanical hand rather than by a human hand.

The oldest tea house in Japan, and therefore in the world, continues to flourish at Uji today under the name *Mitsuboshi-en Kanbayashi Sannyū Honten* 三星園上林三入本店. The house was founded by Kanbayashi Sannyū 上林三入, who, according to well-documented family tradition, was a tea drinking acquaintance of Sen no Rikyū. This exquisite tea house is managed today by the 16th generation scion of the family, who is likewise named Kanbayashi Sannyū 上林三入. Their exquisite hand-picked *gyokuro* and artisanal *matcha*, still finely ground on traditional stone mills, are of unparalleled quality.[13]

13 By contrast, the Tsūen family at Uji descends from a samurai who, upon retirement, was granted the sinecure of collecting toll on the east side of Uji bridge, whence his descendants later acquired the surname *Tsūen* 通円. Whilst the family may very well trace their proud and venerable lineage back to 1160, the claim suggested by the website ⟨www.tsuentea.com⟩, and parroted by Wikipedia <https://ja.wikipedia.org/wiki/通圓>, that the business *Tsūen chaya* 通圓茶屋 'Tsūen tea shop' therefore dates back to this year, which would have been eight years before Yōsai first went to China, is patently ahistorical. The building housing the present tea shop, allowing for periodic restorations and rebuilding, purportedly dates back to 1672. Yet the cavalier wording on the Tsūen website suggests that Ashikaga Yoshimasa, Toyotomi Hideyoshi and Tokugawa Ieyasu might have taken tea in this building. These jarring anachronisms have inspired statements on several other websites to the effect that the shop in question would be 'the oldest tea store in Japan' or 'the oldest tea shop in the world', which is historically incorrect. The highly reputable family has, however, long been in the tea business, as have many families at Uji.

Buddhist Monastery Tea Rituals

Tea was propagated not only by the Rinzai 臨済 school of Zen but also later by the Sōtō 曹洞 school. In 1214, the same year that Eisai cured *shōgun* Sanetomo of alcoholism, he was visited at the Kennin temple 建仁寺 by the fourteen-year-old monk Dōgen 道元. The encounter with Eisai was a formative experience for Dōgen, and, after Eisai's death in 1215, Dōgen returned to Kennin temple to receive the teachings of his successor Myōzen 明全. Later, Dōgen sailed across the East China Sea to study at Chán monasteries in Zhèjiāng from 1223 to 1227. He became an adept in the Cáodòng 曹洞 sect, which he would propagate upon his return to Japan as the Sōtō school of Zen. In his copious writings, Dōgen detailed the role of tea in monastic routine, and one of his works, the *Eihei Shingi* 永平清規 'Rules of Purity', describes Zen tea rituals, which by this time had already acquired a pronounced formulaic character.[14]

Another monk and tea adept, Eison 叡尊 (1201–1290) of the Saidai 西大 monastery in Nara, was specialised in Shingon esoteric rituals involving the Buddhist disciplinary code of *ritsu* 律宗 or *vinaya* विनय 'humility, restraint'. He disliked the device of pondering the riddles called *kōan* 公案 in order to gain insight into esoteric precepts and instead prescribed sūtra recitation.[15] According to the account of his visit to the Kantō region, *Kantō Ōkanki* 関東往還記, Eison visited eight places in 1262, where he dispensed tea to many people whilst conferring precepts.[16] Eison innovated the famous Ōchamori 御茶盛り tea ceremony, which is still practised today in Nara with huge public servings of tea with an oversized *chawan* or tea bowl about 40 cm in diameter and an oversized *chasen* or bamboo tea whisk.

There are two accounts of how the Ōchamori tea ceremony originated. In 1281, when the Mongol invasion of Japan under Kublai Khan's Yuán dynasty was thwarted by *kamikaze* 神風 winds, Eison offered thanksgiving to Hachiman 八幡, the Shintō god of archery, and then served tea to a throng as part of a large ceremony. This practice is still observed today.[17] By another account, the practice originated when Eison had reversed the fortunes of Saidai 西大 temple after he took over as abbot in 1235. In the first month of 1239, the priests of the Saidai temple were made to offer tea publicly at the Hachiman shrine in Nara. In subsequent years, ever larger throngs of people were invited to partake.[18] This second version of how the Ōchamori ceremony originated evidently presumes that the event initially held at the Hachiman shrine, which is located at Tamukeyama 手向山, some 13 km east of Saidai monastery, must have at one point moved back to Saidai, where it is annually observed today.

Another famous Japanese tea tradition, Ōbukucha 大福茶, is the lucky tea drunk at temples in order auspiciously to usher in the new year, made with the first water of the new year. In 951, an epidemic swept through Kyōto, and the Buddhist priest Kūya 空也 healed emperor Murakami 村上 (*imperabat* 946–967) with tea, who therefore initiated the practice of ushering in the New Year with a special cup of tea, whilst the itinerant Kūya continued to make a living by making bamboo tea whisks.[19] This tale is considered to be apocryphal by some scholars, who contend that the practice of Ōbukucha actually arose in later times and grew out of the custom of offering tea to the Buddha

14 Sen (1998: 78–80).

15 Lori Rachelle Meeks. 2010. 'Vows for the masses: Eison and the popular expansion of precept conferral ceremonies in pre-modern Japan', pp. 148–177 in James A. Benn, Lori Meeks and James Robinson, eds. *Buddhist Monasticism in East Asia: Places of Practice*. Abingdon: Routledge; David Quinter. 2015. *From Outcasts to Emperors: Shingon Ritsu and the Mañjuśrī Cult in Mediaeval Japan*. Leiden: Koninklijke Brill.

16 Theodore M. Ludwig. 1981. 'Before Rikyū: Religious and aesthetic influences in the early history of the tea ceremony', *Monumenta Nipponica*, XXXVI (4): 367–390.

17 Sen (1998: 80–81).

18 Murai Yasuhiko. 1989. 'The development of *chanoyu*: Before Rikyū', pp. 3–32 in Paul Varley and Kumakura Isao, eds. *Tea in Japan: Essays on the History of Chanoyu*. Honolulu: University of Hawai'i Press (pp. 9–10).

19 Sen (1998: 81–82, 93).

FIGURE 3.15 Kanbayashi Sannyū 上林三入 with the author at Mitsuboshi-en Kanbayashi Sannyū 三星園上林三入本店 in Uji

and sharing it with others, proposing instead that the origins of Ōbukucha were roughly coetaneous with those of the Ōchamori tea ceremony.[20]

The important tea text *Kissa Ōrai* 喫茶往來 records that Zen tea rituals were already practised by the first half of the 14th century at the Kennin 建仁寺 and Myōshin temples 妙心寺 in Kyōto. This text also records the aphorism 茶禪一味 'tea, Zen, one taste' attributed to the Zen preceptor Engo Kokugon 圜悟克勤 (1063–1135), known in Mandarin as *Yuánwù Kèqín*. The Zen tea drinking rituals had a formulaic structure and exuded a tone of solemnity. The use of tea was also incorporated into rituals at Shintō shrines in this same period.[21]

20 Murai (1989: 10).
21 Sen (1998: 80–81, 86).

Tea Tasting Competitions and Bawdy Bazaars

From the austere solemnity of formal tea rituals performed as a meditation aid in Zen monasteries, the consumption of tea quickly evolved into a loose form of public amusement. During the Kamakura 鎌倉 (1185–1333) and Nanbokuchō 南北朝 (1336–1392) periods, the popular Sòng dynasty custom of holding tea competitions (*dòuchá* 鬥茶) was elaborated in Japan as *tōcha* 闘茶, whereby the Japanese version was adapted to the Heian court pastime of *monoawase* 物合, competitions of judgement to demonstrate expertise and discernment in various fields from seashells to poetry.

Whereas the Chinese tea tasting contests focused on determining which tea was the best, the

Japanese contests originated as a competition in order to be able to identify which tea came from the superb tea garden at Toganoo in Kyōto, and so to distinguish *honcha* 本茶 'true tea' from the *hicha* 非茶 'false tea' originating from other tea gardens than the original garden at Toganoo. Very soon after the inception of these competitions, the tea from the gardens at Uji also came to be denominated as *honcha*.

These contests involved tasting ten cups of tea in accordance with a formula of *yonshu juppuku cha* 四種十服茶 'four kinds of tea and ten cups', being three cups each of one out of three different types of tea and one cup of a fourth extraneous type of tea. In some renditions these competition evolved into tests that were won by the connoisseur who was the best at most accurately determining the provenance of various types of tea by taste. In other cases, the competitions began to involve ever more varieties of tea and cups to taste, leading to such excesses as all-night competitions involving *hyappuku cha* 百服茶 'one hundred cups of tea'. Seven different set-ups are documented for the tea contests of this period. The original setting or *kaisho* 会所 'meeting place' for such tea gatherings were well lit pavilions, which contrasted with the later setting of choice used for the tea ceremony.[22]

After the failed attempt to reinstal civilian government under imperial rule during the Kenmu 建武 restoration (1333–1336), the first Ashikaga *shōgun* Ashikaga Takauji 足利尊氏 (*obtinebat* 1338–1358) initially forbade courtly amusements such as tea tasting competitions and *renga* 連歌 poetry in 1338.[23] During the Muromachi (1336–1573) period, the *samurai* 侍 or *bushi* 武士 warrior class rose to power and formed a new echelon of *nouveau riche*. Many in this parvenu stratum of society lacked the sophistication of the imperial court. At first, tea gatherings strove to imitate the austere tea drinking rituals or *sarei* 茶礼 then practised by Zen monks, but soon such gatherings acquired an extravagance not observed in monastic rituals. The tale of war *Taiheiki* 太平記 preserves an account of one of the lavish sybaritic tea drinking events organised by *daimyō* Sasaki Dōyo 佐々 木道誉, which was typical of the excesses of the new élite.

During this time, the vogue of *tōcha* 闘茶 came to encompass a spectrum of events, which at one end of the spectrum included the connoisseur's refinement of the older tea tasting competitions but at the other end ranged to entertainment of the bawdy and ostentatious variety, to which the term *basara* 婆娑羅 came to be applied. This term, which possibly derives from Sanskrit *vajra* वज्र 'thunderbolt' or 'diamond', denotes the pretentious foppery and licentious self-indulgent coxcombry that characterised the newly powerful samurai class who attended such events. In addition to tea, *sake* was imbibed in liberal amounts, money was squandered on gambling, dancers were hired, and participants availed themselves of the services of loose women.[24]

These events were criticised in some writings of the period, and by the mid 15th century, with the rise of the tea ceremony, these events were scorned as a base form of hedonistic entertainment for gamblers. However, today the original *tōcha* 闘茶 tea contest has survived at tiny Shirokubo 白久保 in the mountains in Gunma 群馬 prefecture north of Tokyo, where *ochakō* お茶講 is practised annually on the 24th of February in a thatched hut surrounded by snowy mountains as part of a festival venerating the deified spirit of Sugawara no Michizane 菅原道真. Participants are given names such as moon, sun, bird, and score sheets, first tasting to memorise the tastes of the tea, then tasting seven cups, six teas plus one unknown tea.[25] Another serious and sophisticated form of *tōcha* survived through the Tokugawa period (1603–1868) and is practised today under the name *cha kabuki* 茶歌舞伎. This rarefied form of *tōcha* most often follows the original classical

22 Murai (1989: 11); Sen (1998: 91–115).
23 Ehmcke (1991: 21).
24 Ludwig (1981: 381).
25 Isao Kumakura. 2007. 'The origin and history of tea culture in Japan', *ICOS*, 3, plenary lecture.

FIGURE 3.16 A screen featuring flowers and birds, painted by Nōami 能阿弥 in 1469, Important Cultural Property, Idemitsu Museum of Arts 出光美術館, Tōkyō

formula of four kinds of green tea drunk from ten cups, but streamlined variations on this tasting game are seen nowadays, such as tasting between several types of *matcha*. Today, *cha kabuki* is seen as a way to hone one's sensibilities and to cultivate a sense of the spiritual aesthetic called *wabi* わび, a doctrine which first found explicit expression in a letter attributed to Jōō (1502–1555).

Nōami Takes Tea from the Tea Pavilion into a Domestic Setting

The fashion of *basara* tea gatherings attained its height during the Kitayama 北山 period (1358–1408), but *basara* was not the only type of *cha yoriai* 茶寄合 'tea gathering' at this time. Some tea parties of the Kitayama period were said to have been characterised by *fūryū* 風流 'elegant refinement'. Some involved the admiration of Chinese *objets d'art* or *karamono* 唐物, which had become all the rage, and some tea gatherings featured *renga* 連歌 poetry. The precursor to the modern *haiku* poem, *renga* was a communal oral poetry in which a small group of practitioners creatively participated. Those gathered together would recite a chain of poetry in a sequence of stanzas consisting of 5-7-5 or 7–7 syllables, each participant contributing a unit and thus generating long sequences of links united by a thematic thread. Participants were expected to display a virtuosity of poetic wit and an *ad rem* awareness and mastery of the theme being elaborated. The Buddhist monk Shinkei 心敬 (1406–1475) and his disciple and friend Sōgi 宗祇 (1421–1502) became leading and influential proponents of *renga*, both in terms of style and thematic content.

In between the extremes of austere monastic ritual as observed in the principal Zen monasteries of the *gozan* 五山 'five mountain' system and the wanton extravagance of *basara*, more subdued tea parties were also practised. For example, there were the *unkyaku chakai* 雲脚茶会 'plain tea gatherings', where common folk could gather over tea that was not of the finest quality available only to the privileged, as well as the relaxed *rinkan no*

FIGURE 3.17
The retreat Tōgudō 東求堂, built in 1486 for Ashikaga Yoshimasa on the premisses of the Silver Pavilion temple *Ginkaku-ji* 銀閣寺 in Kyōto

cha 淋汗の茶 'tea with summer bath'. A major shift occurred when the location of the tea parties involving fine tea was moved from the tea pavilion into the drawing room or *shoin* 書院 of an upper class *bushi* house fitted with *tatami* 畳 mats. The transition to a domestic setting less conducive to boisterous parties is said to be a style innovated by the Japanese painter and poet Nōami 能阿弥 (1397–1471).

Nōami was an advisor to the 6th, 7th and 8th *shōgun* of the Ashikaga shōgunate, Ashikaga Yoshinori 足利義教 (*obtinebat* 1429–1441) and his sons Ashikaga Yoshikatsu 足利義勝 (*obtinebat* 1471–1473) and Ashikaga Yoshimasa 足利義政 (*obtinebat* 1449–1473). As one of the courtly *dōbōshū* 同朋衆 'companions', it was Nōami's task to counsel the *shōgun* in matters of taste. Nōami's son Geiami 芸阿弥 (1431–1485) and grandson Sōami 相阿弥 (died 1525) were also *dōbōshū* and later assumed Nōami's role as arbiter of taste in matters of tea aesthetics. Nōami's fame rested principally upon the advice which he dispensed to *shōgun* Ashikaga

FIGURE 3.18
The Lóngquán 龍泉 ware tea bowl or *chawan* named *Bakōhan* 馬蝗絆 'large lotus clasps', that was once owned by Taira no Shigemori 平重盛 (1138–1179), and later broken by *shōgun* Ashikaga Yoshimasa 足利義政 (*obtinebat* 1449–1473), who, because of the tea bowl's irreplaceable lustre and hue, had the *chawan* repaired with clamps resembling 'large locusts', Important Cultural Property, Tōkyō National Museum

Yoshimasa in matters of tea etiquette and ritual observance and the influence which he exerted on the young Jukō, who would later be hailed as the founder of the tea ceremony.

Nōami's and later his son Sōami's influence on aesthetic sensibilities were strongly felt during the Higashiyama 東山文化 portion (1436–1490) of the Muromachi period. In the tea literature, the proponents of this style in the way of tea until the time of Dōchin 道陳 (1504–1562) are sometimes collectively referred to as the Higashiyama school. When Ashikaga Yoshimasa abdicated in 1489 in favour of his nephew, he retired to his famous retreat Tōgudō 東求堂, built for him in 1486 and located on the premisses of the Silver Pavilion temple (*Ginkakuji* 銀閣寺) in Kyōto. The tea room Dōjinsai 同仁斎 inside this retreat is considered to represent the prototype of the *shoin*, with its recessed decorative alcove (*tokonoma* 床間), staggered shelves (*chigaidana* 違い棚), built-in table (*tsukeshoin* 付書院), sliding solid walls and doorways (*fusuma* 襖) and the wood-framed paper sliding doors (*shōji* 障子).

The indoor setting for tea ceremonies thus moved away from the palatial halls of Zen monasteries in the *zukuri* 造り 'structure' or style known as *shinden-zukuri* 寝殿造り, which emulated the main residential building or *shinden* 寝殿 of a Heian imperial palace, to drawing rooms in the residential style of architecture and interior design known as *shoin-zukuri* 書院造り 'drawing room' or 'writing alcove structure', which enjoyed increasing popularity during the Azuchi-Momoyama 安土桃山時代 (1573–1603) and Edo periods (1603–1868) and furnished the stylistic context in which the tea ceremony would further evolve.

One of Nōami's principal innovations was to place the tea utensil stand (*daisu* 台子) within the *shoin*, thereby importing the tea ceremony from a monastic to a domestic setting. Before the time of Nōami, the first *daisu* was brought to Japan in 1267 from the Jìngshān 徑山 temple at Hángzhōu by Nampo Jōmyō 南浦紹明 (1235–1308). After a few years in Shōfuku temple 聖福寺 at Hakata in Fukuoka, this *daisu* ended up at Daitoku temple 大徳寺, where the Rinzai Zen priest Musō Soseki 夢窓疎石 (1275–1351) used the tea utensil stand when he established the model from which the formal ritual of the Japanese tea ceremony would develop.[26]

The lower level of the stand was the 'earth platform' (*ji ita* 地板), on which were kept a portable wood coal brazier (*furo* 風炉) with the tea kettle, a rack with a scoop and a poke to arrange the coals as well as a vessel for fresh and rinsing water (*kensui* 建水 or *mizukoboshi* 水翻), and the kettle lid coaster (*futaoki* 蓋置). The upper level of the stand was the heaven platform (*ten ita* 天板) on which were kept the tea caddy (*chaire* 茶入) in a pouch with drawstrings (*shifuku* 仕覆), the tea bowl (*chawan* 茶碗), a tea scoop (*chashaku* 茶

26 He was also given the name Musō Kokushi 夢窓国師 'Musō, the national Zen preceptor' by emperor Godaigo 後醍醐 (*imperabat* 1318–1339).

FIGURE 3.19
The Rinzai Zen priest Musō Soseki 夢窓疎石 (1275–1351), as painted by Mutō Shūi 無等周位 during the Nanbokuchō 南北朝時代 period (1336–1392), 119.8 cm × 63 cm, Important Cultural Property, Myōchi temple 妙智院 in Kyōto

杓), the tea whisk (*chasen* 茶筅) and a tea cloth (*chakin* 茶巾).[27] Water is kept in a lidded ceramic or wooden storage jar called a *mizusashi* 水指, and bamboo water ladles or *hishaku* 柄杓 are used to scoop water into the *kama* 釜 'iron pot' or 'kettle'.

27 Charly Iten. 2004. *Der Teeweg und die Welt der japanischen Teeschalen: Zur Töpferkunst der von Sen no Rikyū und Furuta Oribe geschätzten Brennöfen*. University of Zürich doctoral dissertation (p. 55). Some people working with *matcha* on a daily basis might be inclined to ponder whether today Toraysee™ carbon microfibre handkerchiefs, manufactured by Toray 東レ *tōre* Industries and available in various sizes and colours, might not provide a superior alternative to the traditional *chakin* 茶巾.

FIGURE 3.20
A lidded water storage jar made of *shigaraki* ware 信楽焼, Azuchi Momoyama period (1568–1600), Important Cultural Property, Tōkyō National Museum

An Oasis of Calm in a Troubled Time

The Sengoku 戦国 period (1467–1568) of Japanese history was characterised by constant military conflict, political intrigue and social upheaval. It was in this context of unrest that the tranquil refuge of the Japanese tea ceremony was developed. As a boy ten years of age, Murata Jukō 村田珠光 (1423–1502), began to serve as an attendant at the Shōmyō 称名 temple in Nara, where he had been born into a simple family. For his given name 珠光 the two alternative pronunciations Jukō じゆこう and Shukō しゆこう are both in use. Both meditation and studying Buddhist texts exerted a soporific effect on Jukō, and at the age of twenty he abandoned the monastery to lead an itinerant lifestyle. After several years of wandering Jukō ended up in Kyōto, where he learnt about tea and is said to have met Nōami, studied the Japanese art of flower arrangement, known as *ikebana*, and observed a domestic tea ceremony in an aristocratic *shoin*.[28]

Jukō studied Zen under the monk Ikkyū Sōjun 一休宗純 (1394–1481), who taught that the way of the tea epitomised Buddhist life in harmony with the *hō* 法 or *dharma* धर्म 'natural order'. From his teacher he also learnt that the clouded moon was to be preferred above the perfect moon in a clear sky, so that Jukō professed:

> 月も雲間のなきは嫌にて候
> *Tsuki mo kumoma no naki wa iya nite sōrō*
> I am fond of the moonlight peeping through the cloud.[29]

The natural and irregular came to embody the ideal. Whereas Nōami propagated a genteel drawing room rendition of the tea ceremony employing the finest imported Chinese ceramics (*karamono* 唐物), cherished by Ashikaga Yoshimasa, who maintained a considerable collection, Jukō favoured native ceramics in the Japanese style (*wamono* 和物). Jukō described the more rustic native wares as *hie* 冷え 'cold' and *kare* 枯

28 Ludwig (1981: 385), Sen (1998: 124–129).

29 My warm thanks to Nishida Fuminobu 西田文信 for this rendering.

FIGURE 3.21
Landscape painted by Murata Jukō 村田珠光 (1423–1502), Nomura Art Museum 野村美術館, Kyōto

FIGURE 3.22 Jukō's teacher Ikkyū Sōjun 一休宗純, alias Ikkyū Oshō 一休和尚 (1394–1481), who described himself as the *kyō un* 狂雲 'mad cloud' (Muromachi period, colour on paper 43.6 cm × 26.3 cm), Important Cultural Property, Tōkyō National Museum

れ 'withered' and preferred them to geometrically perfect Chinese ceramics. These two themes, so important to Jukō's sensibilities, were derived from the *renga* poetry of the monk Shinkei 心敬 (1406–1475), who described the sublime mystique and pathos of natural beauty in terms of *hie* 冷え 'cold', *kare* 枯れ 'withered' and *yase* 痩せ 'meagre' or 'gaunt'.

Jukō's choice of setting for the tea ceremony was also more bucolic than a drawing room or *shoin*. In contrast to the capacious *kaisho* 会所 'meeting place' for tea gatherings inside the aristocratic *shoin* 書院, where many guests could partake, Jukō's rendering of the tea room was a *chashitsu* 茶室 'tea hut' with a surface area of 4½ *tatami* mats (*yojōhan* 四畳半). In competition to the genteel *shoin-zukuri* 書院造り 'drawing room' setting for taking tea, Jukō innovated the style of *sukiya-zukuri* 数寄屋造り, whereby the *sukiya* 数寄屋 was literally a place of *suki* 数寄 'refined taste, elegant pursuits' that offered a simple and austere setting for taking tea in a small space.

The idea was probably inspired by the text *Hōjōki* 方丈記 'an account of my hut' written by Kamo no Chōmei 鴨長明 (1155–1216), who in turn took his inspiration from the small hut of the sage Vimalakīrti विमलकीर्ति described in the *Vimalakīrti Sūtra* 維摩経.[30] Jukō shunned extravagance, and created a simple and natural atmosphere intended to evoke an attitude of modesty, purity, tranquility and reflection. Jukō used the expression *cha no yu* 茶の湯, literally the hot water (*yu*) with which the tea (*cha*) is prepared, metonymically to designate his tea ceremony.

30 Ehmcke (1991: 33).

FIGURE 3.23
A late 15th century or early 16th century tea bowl named *shirasame* 白雨 (しらさめ) 'bright shower', exhibiting the traits *hie* 冷え 'cold' and *kare* 枯れ 'withered'

A description of the interior of Jukō's tea room is recorded in the *Nanpōroku* 南方録, a text written by the monk Nanpō Sōkei 南坊宗啓, the surviving rendition of which was compiled between 1686 and 1690.[31] In Jukō's new tea hut style, the staggered shelves (*chigaidana* 違い棚) and built-in table (*tsukeshoin* 付書院) disappear, and the water was heated above a coal hearth sunk into the floor. Flowers in Jukō's tea room were simple and added just an aesthetic accent but were not overwhelmingly present. If incense were to be used, only light incense with a subtle fragrance was permitted, used in moderation, and the number of participants was reduced. His tea room came to be housed in a small thatched hut or *sōan* 草庵. Yet from this modest setting Jukō was able to popularise the tea ceremony in both the élite and monastic circles of Kyōto.

Later, during the Tokugawa period (1603–1868), tea scholars would refer to the philosophy taught by Jukō and his disciple Jōō as *wabi cha* わび茶 'austere tea' or *wabi suki* 侘数寄 'the stark aesthetic', but it is unlikely that Jukō himself ever used the term *wabi* 侘び. This term appears to have first been introduced by Jukō's pupil Jōō and then adopted by Jōō's pupil Rikyū. The spiritual appreciation of beauty in simple things that were austere, stark, irregular and imperfect was termed *wabi* 侘び, derived from the verb *wabu* 侘ぶ 'yearn, languish'. The term *wabi* acquired an aesthetic sense of sober and quiet refinement and of beauty in forlorn simplicity.[32]

The other concept central to the aesthetic of the tea ceremony is *sabi* 寂 or さび, which is sometimes rendered into English as 'elegant simplicity', but this translation is not precisely equivalent in meaning. The verb *sabiru* 寂る means to 'mellow' or 'mature', but also to 'rust', so that the term *sabi* may be used in the context of a patina or an aesthetic antique appearance. A number of related and derived words convey a sense of another facet of the original meaning of the notion. For example, the adjective *sabishii* 寂しい means 'lonely' or 'desolate', and the noun *sabishisa* 寂しさ means 'growing lonely' or 'desolation'. The verb *sabishi garu* 寂しがる means to 'feel lonely' or to 'miss someone or something'.

Later it would be said that the *haiku* 俳句 poetry of Matsuo Bashō 松尾芭蕉 (1644–1694), who lived and died two centuries after Murata Jukō, tended

31 Iten (2004: 95).

32 Ludwig addresses the question as to whether a scent trail can be detected in the history of tea that unites earlier strands of tradition with the emergence of *wabi* (Ludwig 1981: 368, 386). A sensitive and balanced treatise on わび *wabi* in English translation is: Haga Kōshirō. 1989. 'The *wabi* aesthetic through the ages', pp. 195–230 in Varley and Isao (op.cit.).

often to be imbued with a sense of *sabi*.[33] A favourite example is the following *haiku*.

> 蜻蛉やとりつきかねし草の上
> *tonbō ya toritsuki kaneshi kusa no ue*
> A dragonfly unable to perch atop the blade of grass.[34]

In Bashō's poetry, references to *sake* 酒 occur more frequently than do references to tea, but in each of the following three *haikus* Bashō conjures up a poignant image of tea.

> 駿河路や花橘も茶の匂ひ
> *Suruga-ji ya hana-tachibana mo cha no nioi*
> On the road to Suruga even the orange blossoms smell of green tea.[35]

> 口切に堺の庭ぞなつかしき
> *kuchikiri ni Sakai no niwa zo natsukashiki*
> Opening a jar of tea, I remember the garden of Sakai.[36]

> 朝茶飲む僧静かなり菊の花
> *asa-cha nomu sō shizuka nari kiku no hana*
> As the serene monk drinks his morning tea … chrysanthemum flowers.[37]

Each *haiku* depicts a moment which the poet renders from a particular perspective.

Haga Kōshirō argues that, at the time of Jukō, Zen tea tradition in combination with the bitter experience of the Ōnin 応仁 war (*gerebatur* 1467–1477), which broke out after the death of Ashikaga Yoshimasa, together yielded the need for an aesthetic escape from the luxurious *shoin* tea culture of the aristocratic drawing room and away from the rowdiness of *tōcha* events to a find a tranquil haven within which to contemplate beauty and cherish the fleeting moments of life.[38] In addition to the two influences proposed by Haga, Jukō was also influenced by the popular tea pastime of *rinkan no cha* 淋汗の茶 'tea with summer bath', practised at Nara and promoted by Furuichi Taneshige 古市胤栄 of the Kōfuku 興福 temple, whose brother became Jukō's first disciple.[39]

Most importantly, Jukō's teacher Ikkyū Sōjun was a decisive influence. Ikkyū described himself as the *kyō un* 狂雲 'mad cloud'. Ikkyū was an untameable renegade practitioner of Zen who opposed what he perceived to be venal duplicity on the part of the Daitoku temple élite, and he made no effort to conform to monastic decorum or routine.[40] Yet it was Ikkyū who managed to raise generous funding from Sakai merchants so that Daitoku temple emerged more lavishly refurbished after the Ōnin war. Jukō himself was a benefactor, and, in addition to funds from the Sakai merchant class, the Daitoku temple benefitted particularly from the patronage of warlords and the generosity of tea masters.

Jōō Picks up Where Jukō Left Off

In 1502, Takeno Jōō 武野紹鴎 was born into a family of leather merchants, albeit of warrior class descent, in the port city of Sakai 堺, and in the very same year Jukō died in Kyōto at the age of 79. Jōō went to Kyōto, where he first studied poetry under the lord Ōuchi Yoshioki 大内義興 of Yamaguchi, and Jōō became a gifted *renga* poet. In 1525, Jōō continued his studies under the erudite aristocrat Sanjōnishi Sanetaka 三条西実隆 (1455–1537),

33 Japanese Culinary Academy. 2015. *Introduction to Japanese Cuisine: Nature, History and Culture*. Tokyo: Shuhari Initiative (pp. 88–90).

34 Bashō 芭蕉 seigneur ermite. 2012. *L'intégrale des haïkus, édition bilingue, traduction, adaptation et édition établies par Makoto Kemmoku et Dominique Chipot*. Paris: La Table Ronde (p. 258).

35 Bashō 芭蕉 (2012: 329). The old province of Suruga corresponds to what today is the central portion of Shizuoka prefecture.

36 Bashō 芭蕉 (2012: 301).

37 Bashō 芭蕉 (2012: 261).

38 Haga Kōshirō 芳賀幸四郎 (1978) quoted in (Ludwig 1981: 367, 369).

39 Ludwig (1981: 386).

40 Ludwig (1981: 386–390).

FIGURE 3.24
Takeno Jōō 武野紹鷗 (1502–1555), as depicted by Maruyama Ōkyo 圓山應擧 (1713–1795), Nara Museum

who at the age of 70 had been reduced to penury. More important is that during his sojourn in Kyōto, Jōō studied Zen and learnt the way of tea from Jukō's disciples Sōgo 宗悟 and Jūshiya Sōchin 十四屋宗陳.[41]

41 Sen (1998: 146–147).

In the history of the Japanese art of tea, Jōō's style is viewed as a continuation and further refinement of the tea art developed by Jukō. In this regard, it is noteworthy that Jōō's tea art contrasted with the path followed by Jukō's own adopted son Murata Sōshu 村田宗珠, who popularised the tea ceremony in Shimogyō 下京 in Kyōto amongst

the wealthy urban gentry of the *machishū* 町衆 class. The genteel style and the use of exquisite and costly tea utensils by Murata Sōshu formed a sharp stylistic contrast with the rustic naturalism of Jōō's tea art.[42]

In 1537, Jōō returned to Sakai, where he propagated the tea ceremony and further refined the notion of *wabi*. Jōō popularised the tea ceremony amongst well-to-do merchants of Sakai and taught that the tea ceremony does not end when one leaves the tea room. The affluent merchants of the Sakai who practised the tea ceremony and created the ambiance of an alpine village retreat in their gardens were known as *sukisha* 数寄者 'men of refined tastes', and this epithet came to be applied both to tea masters and lovers of the arts and fine things.[43]

Jōō prescribed that a meal offered to tea ceremony guests should be limited to just soup and three other dishes. Such a meal later came simply to be called a food service (*furumai* 振舞) in the Tenbun period (1532–1554). This modest meal was the precursor to the gastronomical meal of later times, known as *kaiseki ryōri* 会席料理, which originated just as a meal consumed in the waiting room where the guests had gathered before the tea ceremony itself. Subsequently, the term came to be written as *kaiseki* 懐石, an orthography attributed to Sen no Rikyū 千利休 (1522–1591). The two characters in *kaiseki* 懐石 denote 'breast pocket' and 'stone' respectively and so directly allude to the austere monastic practice of holding an *onjaku* 温石, a stone heated by the fire and then wrapped in a cloth, against the chest or abdomen to still one's hunger. Though originally a light meal taken before the tea ceremony, today *kaiseki* 懐石 or *cha kaiseki* 茶懐石 often denotes a meal eaten after the tea ceremony to round off the event with a culinary high point. Today this meal often takes the form of an elegant set menu in the style of the tea ceremony tradition served in a luxurious traditional *ryōtei* 料亭 or a gastronomical *kappō* 割烹 restaurant.

In the *sōan* style developed by Jukō, Jōō likewise built his own tea hut in his garden in Sakai. Jōō named his tea hut *yamazatoan* 山里庵 'mountain village hermitage' in emulation of the courtly *shō* 笙 pan pipe musician and tea adept Toyohara Sumiaki 豊原統秋 (1450–1524), who had built a tea hut by the same name in his garden in Kyōto.[44] Jōō ascribed a symbolic significance to the tea house garden path upon which the tea ceremony participant would tread to the tea hut and on the way shed all thoughts of his worldly concerns and mundane preoccupations and transit into a spiritual state of mind. On the basis of the *Nanpōroku* 南方録, we know that at the time of Jōō the garden path leading to the tea hut was still just called a *roji* 路地 'path' and had not yet acquired the homophonous name *roji* 露地 'dewy ground', an allusion to a place of purity mentioned in the Lotus Sūtra.[45] Jōō's two most famous pupils were his own affluent son-in-law Imai Sōkyū 今井宗久 (1520–1593) and the celebrated Sen no Rikyū 千利休 (1522–1591). Like the symbolic orthography for *kaiseki* 懐石, the allusion to a place of purity conveyed by the characters *roji* 露地 'dewy ground' likewise represents an orthographic nicety traditionally attributed to Sen no Rikyū.

Sen no Rikyū

The most poignant figure in the history of the Japanese tea ceremony is without a doubt Sen no Rikyū 千利休 (1522–1591). Born as the son of fish

42 Ehmcke (1991: 62).

43 The ideogram 者 has an alternative reading *mono*, and today the term 数寄者, particularly when this orthography is read as *sukimono*, can now also be used in the sense of 'lecher, lewd person, nymphomaniac, self-indulgent person'. Outside of Japan, across the East China Sea to the west, another somewhat similar case of semantic shift is the Chinese word *tóngzhì* 同志 'comrade', which was originally the term of address for fellow members of the Communist Party of China and has since the 1980s become a term denoting a gay man or lesbian.

44 Iten (2004: 68).

45 Iten (2004: 68).

FIGURE 3.25 A garden path or *roji* 露地 'dewy ground' leading to a tea house, Kōtō-in 高桐院, Kyōto

merchants in Sakai, he went by the name Yoshirō 与四郎 in his childhood.[46] From the age of sixteen, Yoshirō learnt the way of tea from Kitamuki Dōchin 北向道陳 (1504–1562) in the *shoin* style which had come down from Nōami. The line of transmission came directly from Jukō, who had imparted tea instructions to his young page Ukyō 右京. Later in his adult life, Ukyō donned the name Kūkai 空海—an obvious allusion to the historical Kūkai, who had brought tea seeds to Japan in 806—and moved to Sakai, where he met the young and reclusive Dōchin to whom he transmitted the way of tea.[47] In turn, years later as an adult tea preceptor, Dōchin imparted teachings of the tea ceremony to the young Yoshirō.

After his father's death in 1540, Yoshirō studied Zen under Dairin Sōtō 大林宗套 (1480–1568) at Daitoku temple 大徳寺 in Kyōto, where he was given the name Sōeki 宗易. Afterwards, upon the recommendation of Dōchin, he became a pupil of Jōō, who had popularised the tea ceremony in the

46 Dennis Hirota. 1995. *Wind in the Pines: Classic Writings of the Way of Tea as a Buddhist Path*. Fremont, California: Asian Humanities Press (p. 364).

47 Theodore M. Ludwig. 1989. '*Chanoyu* and momoyama: Conflict and transformation Rikyū's art', pp. 71–100 in Varley and Isao (op.cit., pp. 74–75), Ehmcke (1991: 30), Hirota (1995: 219).

FIGURE 3.26
Sen no Rikyū 千利休 (1522–1591), known as Yoshirō 与四郎 in childhood, and later by the temple name Sōeki 宗易, as painted by Hasegawa Tōhaku 長谷川等伯, kept at the Omotesenke Fushin'an 表千家不審庵

wabi cha わび茶 style, a tradition which derived originally from Jukō.[48] Then in 1579, at the age of 57, Sōeki became the tea master to the powerful *daimyō* Oda Nobunaga 織田信長 (1534–1582), whose acquaintance he had first made just a few years before. What Sōeki had done in the intervening thirty-odd years is poorly documented, but what is known is that he had made a name for himself as a tea master, and his services were coveted.

The times in which Sōeki lived were a time of transition and strife at the end of the Sengoku period, and the people who coveted his services in the austere art of the tea ceremony were the most powerful men in Japan. The imposing Oda Nobunaga had started the process which would lead to the unification of Japan and at this time had more than half of the provinces of Japan under his control. During his military campaigns, Nobunaga sought to acquire precious tea objects and treasures such as priceless tea caddies during his *meibutsu gari* 名物狩り 'hunting for precious crafts'. After Nobunaga had captured many such objects at the wealthy port city of Sakai, he required the services of tea masters who could officiate and put these objects to proper use. The three tea masters whom he recruited in 1579 were Tsuda Sōgyū 津田宗及, Imai Sōkyū 今井宗久 and Sen Sōeki 千宗易, and all three of them served Nobunaga for three years until the *daimyō*'s sudden death.[49] Both Imai Sōkyū and Sen Sōeki were Jōō's own disciples, whilst Tsuda Sōgyū was the son of Tsuda Sōtatsu 津田宗達, who was one of Jōō's disciples.

Nobunaga perished in a fire on the 21st of June 1582, either in the flames or by *seppuku* 切腹, when he was attacked whilst preparing tea at the Honnō 本能 temple in Kyōto.[50] His attackers were soldiers under the command of one of his own generals, Akechi Mitsuhide 明智光秀 (1528–1582). Whether out of envy for the favouritism which Nobunaga showered upon his vassal Hashiba Hideyoshi 羽柴秀吉, later to be known as Toyotomi Hideyoshi 豊臣秀吉, or out of jealousy for the ephebophile *shudō* 衆道 relationship which Nobunaga maintained with his page Mori Ranmaru 森成利 (1565–1582), the motives of Mitsuhide will never be known. Yet the disloyal general died within a fortnight after the incident, and Nobunaga was succeeded by Toyotomi Hideyoshi (1537–1598), who would unify Japan as a nation, and Sōeki became his chief tea master.

Sōeki gained great fame in Hideyoshi's service and was the only non-samurai to be part of his inner circle. Sōeki first acquired the epithet Rikyū 利休 on the 7th of October 1585 during a tea ceremony held at the behest of Hideyoshi at which tea was formally presented to emperor Ōgimachi 正親町 for the first time. On this occasion at the imperial palace, the hegemon Hideyoshi prepared the tea for the emperor and received the surname Toyotomi, whilst the emperor bestowed upon Sōeki the Buddhist title of *rikyū koji* 利休居士. The actual meaning of *rikyū*, literally 'blackish green', is disputed, whereas the term *koji*, signifying *gṛhapati* गृहपति 'householder', denotes a Buddhist layman. During this period, Rikyū became Hideyoshi's confidant and exerted an unprecedented influence.

Then, in 1587, in the pine forest at Kitano 北野 in Kyōto, Hideyoshi held a ten-day tea fair. This grand event lasted only one day, although scheduled to last for ten. All practitioners of *wabi* were commanded to attend, and those who would not attend were banned from considering themselves men of *wabi* tea (*wabi chajin* 侘び茶人). Hideyoshi's tea caddies and assorted tea treasures were all put on display during this fair. Tea was served to over eight hundred people by Hideyoshi, Rikyū, Tsuda Sōgyū and Imai Sōkyū. Around this time, the once intimate relationship between Hideyoshi and Rikyū began to sour. Four years later, in 1591, Rikyū had the gate at the Daitoku temple in Kyōto rebuilt and placed a wooden statue of himself in

48 Jennifer Lea Anderson. 1991. *An Introduction to Japanese Tea Ritual*. Albany: State University of New York Press (pp. 35, 51); Sen (1998: 161–162); Iten (2004: 86–87).

49 Kumakura Isao. 1989. 'Sen no Rikyū: Inquiries into his life and tea', pp. 33–69 in Varley and Isao (op.cit., pp. 34–35).

50 Anderson (1991: 37).

FIGURE 3.27 Toyotomi Hideyoshi 豊臣秀吉 (1537–1598), hanging scroll with paint on paper by Kanō Mitsunobu 狩野光信 (1565–1608), Important Cultural Property

straw sandals on the top of the gate, under which people entering the temple would have to pass. This show of vanity displeased Hideyoshi, who sentenced Rikyū to death by suicide. On the 21st of April 1591, after preparing tea one last time, Rikyū disemboweled himself with a sword in an act of ritual *seppuku* 切腹.

Rikyū's ritual suicide has become a topic of scholarly fascination about which much has been written. His emblematic gesture forms the topic of the 1981 historical novel *Honkakubō Ibun* 本覺坊遺文 'Honkakubō's account' by Inoue Yasusushi 井上靖.[51] Despite the apparent conceit of placing the wooden statue above the gate at Daitoku

51 Inoue's novel was translated into German by Ursula Gräfe (Yasushi Inoue. 2007. *Der Tod des Teemeisters*. Frankfurt am Main: Suhrkamp Verlag).

FIGURE 3.28
A *rakuyaki* 楽焼 tea bowl named *muichimotsu* 無一物 'being free of earthly attachments', made by Tanaka Chōjirō 長次郎 (1516–1589), Important Cultural Property, Momoyama 桃山 period, Egawa Museum of Art 頴川美術館, Nishinomiya 西宮市

temple, it was actually the ostentatious materialism of Nobunaga and Hideyoshi that contrasted starkly with Rikyū's austerity and stark interpretation of the *wabi* spirit. The rustic *rakuyaki* 楽焼 tea bowls made by the potter Tanaka Chōjirō 長次郎 (1516–1589), some of which might strike a modern observer unaware of this period in Japanese art history as quite artless, were preferred by Rikyū and presented a shrill contrast to the sumptuous pomposity of the lovely *meibutsu* 名物 collected by his samurai masters. Under the patronage of the Senke schools of tea, this ceramic style was perpetuated by Chōjirō's grandson Dōnyū 道入 (どうにゅう) (1574–1656), who also went by the artistic name Nonkō ノンコウ, and by his friend Hon'ami Kōetsu 本阿弥光悦 (ほんあみこうえつ) (1558–1637). This style was most famously propagated beyond Kyōto by Dōnyū's son, the productive Raku Ichinyū 楽一入 (らくいちにゅう) (1640–1696), whose actual family name was likewise Tanaka 田中. Raku Ichinyū was fond of going by the popular name Kichizaemon 吉左衛門 (きちざえもん), which has ever since been passed down as an epithet to subsequent generations of *raku* 樂 masters.

Rikyū is reputed to have preferred simple tea implements made out of unfinished bamboo, although Rikyū himself famously designed a *chashaku* 茶杓 'tea scoop' in black ivory with an elegantly tapered and sumptuously flowing form, kept today at the Hatakeyama 畠山 collection in Tōkyō. Rikyū reduced the size and decor and also simplified the architecture of the tea hut, with the doorway positioned facing south and the garden path lined with trees in order to render the light within the tea hut as indirect and as subdued as possible. He reduced the size of the tea room from Jukō's 4½ *tatami* mats (*yojōhan* 四畳半) to just two, most notably in the famous tea hut Taian 待庵 'hermitage of awaiting', located on the grounds of the Myōkian temple 妙喜庵 at Ōyamazaki 大山崎 near Kyōto. Rikyū introduced both the *nijiriguchi* 躙り口 and the *katanakake* 刀懸け as elements of the tea house. The *nijiriguchi* is a 66 cm × 60 cm entrance through which one had to stoop or crawl in order to enter into the tea space, thereby rendering all tea ceremony participants symbolically equal. The *katanakake* is a single or double sword rack outside of a tea house entrance where the samurai had to leave their swords, which served as much as status symbols as they did as lethal weaponry.

Both architectural features were designed to elicit acts of humble effacement from the participants at the outset of the tea ceremony. Rikyū also placed a *tsukubai* 蹲 or stone basin filled with water, symbolising purification, halfway down the tea garden path. In shrill contrast to Rikyū's claustrophobic tea recess in the Myōkian temple, his master Hideyoshi created a portable tea room made of gold, the glittering *ōgon chashitsu* 黄金茶室 'golden tea room', that could be transported so that the hegemon could enjoy the luxury of an opulent tea ceremony anywhere. This three-mat 'hermit's hut', which was made entirely of gold except for the bamboo whisk, the wooden ladle and the linen cloth, showed the pompous exuberance of

the farmer's son who had become the hegemon of all of Japan.

Accounts of Sen no Rikyū, his teachings, descriptions of the form in which he had moulded the tea ritual as well as his secret writings were preserved in the *Nanpōroku* 南坊録, compiled between 1686 und 1690 and authored by a legendary Zen priest named Nanbō Sōkei 南坊宗啓. The following are just three of the many poems ascribed to Rikyū.[52]

茶の湯とは
ただ湯をわかし茶をたてて
飲むばかりなる事と知るべし

Chanoyu to wa
tada yu wo wakashi cha wo tatete
nomu bakari naru koto wo shiru beshi

Keep in mind that the way of tea
is nought but this:
Heat the water, whip the tea and drink it

茶はさびて
心はあつくもてなせよ
道具はいつも有合にせよ

Cha wa sabite
kokoro wa atsuku mote naseyo
dōgu wa itsumo ariai ni seyo

Serene simplicity is the spirit of tea
Receive with a warm heart
And make do with what you have

目にも見よ耳にもふれよ
香を嗅ぎて
ことを問ひつつよく合点せよ

Me ni mo miyo mimi ni mo fureyo
kō wo kagite
koto wo toitsutsu yoku gaten seyo

Behold with your eyes, listen with your ears
Smell the aromas
Study assiduously and acquire the spirit of tea

The tea ceremony and the art of *wabi cha* are said to have attained their definitive form under Rikyū in what would become known as the *chadō* or *sadō* 茶道 'the way of tea'. In addition to the *Nanpōroku* 南方録, a chronicle written by Yamanōe Sōji (1544–1590) of Sakai and entitled simply *Yamanōe Sōji Ki* 山上宗二記 'the account of Yamanōe Sōji' also provides additional written documentation of Sen no Rikyū, his life and death. Portions of these classical writings on tea from this period are available in the sensitive English translation of Dennis Hirota.[53]

Tea Schools Arising through the Seven Disciples

After Rikyū's death, his seven closest disciples became known as the *Rikyū shichi tetsu* 利休七哲 'seven sages of Rikyū', who in theory became the principal tea preceptors in Japan. Two of his disciples were converts to Christianity. Takayama Ukon 高山右近 (1552–1615) had already taken the baptismal name of *Justo* in 1564, twenty-seven years before Rikyū's death. Takayama left Japan for Manila in 1614, when Tokugawa Ieyasu 徳川家康 forbade Christianity and expelled most Christians. Another of Rikyū's disciples, Makimura Hyōbu 牧村兵部 (1546–1593), had under Takayama's influence likewise converted, but Makimura only outlived Rikyū by two years. Two other tea disciples, Gamō Ujisato 蒲生氏郷 (1566–1595) and Seta Kamon 瀬田掃部 (1548–1595), outlived Rikyū by just four years, and little is known about a fifth, Shibayama Kenmotsu 芝山監物.

Finally, a sixth disciple, Hosokawa Sansai 細川三斎 (1564–1645), lived to a ripe old age and served as a tea preceptor for many years. Hosokawa was granted a vast domain covering the area of today's Fukuoka and Ōita prefectures after fight-

52 Bertrand Petit et Keiko Yokoyama. 2005. *Poèmes du thé*. Paris: Éditions Alternatives (pp. 64, 70, 77).

53 Hirota (1995).

FIGURE 3.29 Portrait of Furata Oribe 古田織部 (1543–1615), kept in the Ōsaka castle tower 大阪城天守閣

ing on the side of Tokugawa Ieyasu 徳川家康 at the battle of Sekigahara 關ケ原 in October 1600. The proponents of the tea ceremony school known today by the name *Sansai-ryū* 三斎流, currently headquartered in Izumo 出雲 in Shimane 島根 prefecture, trace their lineage back to Hosokawa Sansai.

The most famous of the seven tea sages was Furata Oribe 古田織部 (1543–1615). As Rikyū's principal successor, Oribe became Japan's leading tea master for 24 years, but his ultimate fate was not as bright as that of Hosokawa and instead rather resembled that of his teacher. Oribe served Hideyoshi until his death in 1598, then became the tea master to Tokugawa Ieyasu 徳川家康 and afterwards to the second Tokugawa *shōgun* Hidetada 秀忠. When Ieyasu took the title of *shōgun* in 1603, Japan would until 1867 enjoy two and a half centuries of relative peace under the Tokugawa shōgunate. However, during the Summer Siege of Ōsaka in 1615, Oribe was suspected of spying on behalf of the rival Toyotomi clan and ordered to commit *seppuku*, so that in the end he was compelled to end his life just as his former teacher had done.[54]

This long period of military rule over a stratified feudal society is called the Edo period (1603–1867). In 1739, Lù Tíngcàn's 陸廷燦 1735 *Sequel to the Classic of Tea* (*Xù chá jīng* 續茶經) was imported to Japan, and from 1758 onward it became popular to

54 Kumakura Isao. 1989. 'Kan'ei culture and *chanoyu*', pp. 135–160 in Varley and Isao (op.cit.).

FIGURE 3.30 *Gezigt van de brug Jetaï op de haven en de stad Jedo*, view of the port and city of Edo 江戸 'estuary', today called Tōkyō, as seen from the Eitai bridge 永代橋 on the Sumida river 隅田川 (von Siebold 1823)

print reproduced editions of Lù Yǔ's *Classic of Tea* with original Japanese annotations.[55] Yet under the lineage of Japanese tea masters from Nōami via Jukō, Jōō and Rikyū to Oribe, Japanese tea culture had already developed its own rarefied style and sublime aesthetic. The tea ceremony was practised not only in Zen monasteries but also by the military élite, amongst whom the ritual of *chanoyu* served as an emblem of their political hegemony and class identity.

Oribe's aesthetic choices were not as dour and mirthless as those of his teacher. He influenced ceramic art by indulging in a fondness for expressive pieces that showed some quirk, asymmetry or irregularity. He also had a preference for more colour, both in ceramics and in the flowers, which increasingly came to serve as an adornment in both the tea room and the tea hut garden. His predecessors from Jukō to Rikyū, in cultivating their *wabi* style, were quite pleased to use a minimal and starkly austere adornment of just white flowers or no floral ornament whatsoever. Oribe's predilection for colour has been attributed to *nanban* 南蛮 'southern barbarian' influence, which at the time meant an exposure to Portuguese culture. Oribe expanded the *sōan* 草庵 with adjoining rooms (*kusari no ma* 鎖の間) and added a window to the tea hut to allow in good natural light. The proponents of the tea ceremony school known as *Oribe-ryū* 織部流, headquartered today in Chiba 千葉 prefecture, trace their lineage back to Furata Oribe.

55 Patricia Jane Graham. 1998. *Tea of the Sages: The Art of Sencha*. Honolulu: University of Hawai'i Press (p. 12); Jiāng and Jiāng (2009, 1: 38).

FIGURE 3.31 The lush carpet of bryophytes explains why Saihō temple is popularly known as *kokedera* 苔寺 'moss temple'.
PHOTO BY KUL PRASAD 'KRISHNA' SHIWAKOTI कुल प्रसाद 'कृष्ण' शिवाकोटी

After Oribe's ritual suicide, his disciple Kobori Masakazu 小堀政一, alias Kobori Enshū 小堀遠州 (1579–1647), succeeded him and went beyond his teacher's innovations in *sadō* style to develop a materially more exquisite tea art style called *kirei sabi* 奇麗さび or 'lovely' *sabi*, which appealed to the affluent warrior class. Consequently, the aesthetic preferences of both Oribe and Enshū are often referred to as *daimyō cha* 大名茶 'tea of the feudal lords'. The entire Kan'ei 寛永 portion (1624–1644) of the Edo period was characterised by an artistic culture aimed at pleasing the aesthetic sensibilities of the aristocracy and affluent gentry. The philosophy of the tea ceremony also changed to keep up with the spirit of the times under Tokugawa military rule to incorporate the Confucian ideal of loyalty to one's superiors.

As opposed to an informal *chakai* 茶会 'tea gathering' for social or didactic purposes, the *chaji* 茶事 became a full tea gathering for selected guests which included a meal. In the Edo period, the tea ceremony was often held in a *hiroma* 広間 'tea room', where noblemen and dignitaries would not have to stoop as they entered through the *kininguchi* 貴人口, an entrance consisting of two sliding paper door panels or *shōji* 障子. Such tea rooms usually featured a sunken hearth or *irori* 囲炉裏. Proponents of the tea ceremony school known as *Enshū-ryū* 遠州流, headquartered today in Tōkyō, trace back their lineage to Kobori Enshū.

FIGURE 3.32 The meticulously tended moss garden of Saihō temple 西芳寺
PHOTO BY KUL PRASAD 'KRISHNA' SHIWAKOTI कुल प्रसाद 'कृष्ण' शिवाकोटी

Tea Schools through Family Descent

Rikyū had a son named Dōan 道安 and a stepson named Shōan 少庵. After Rikyū had performed his ritual suicide in 1591, his son Dōan (1546–1607) fled Kyōto and years later came to live under the protection of Rikyū's disciple Hosokawa Sansai, who had by then become a powerful *daimyō*. Years later, Dōan was able to return to the Sen 千 family home at Sakai. Dōan taught the way of tea to Kuwayama Sadaharu 桑山貞晴 (1560–1632), who as a tea master would identify himself as Kuwayama Sōsen 桑山宗仙 and who also went by his scholarly name Kuwayama Sakon 桑山佐近.

Kuwayama imparted the way of tea to Katagiri Sekishū 片桐石州 (1605–1673) who strove to emulate Jōō as his historical role model and later became a close colleague of Kobori Enshū, whose innovations he further transformed in developing his own style. Katagiri oversaw the restoration of the Chion temple 知恩院 in 1633 after its destruction by earthquakes and fire. Today the proponents of the school of tea known as *Sekishū-ryū* 石州流 trace their lineage back to Katagiri. Like Oribe and Enshū, Katagiri Sekishū catered to the tastes of the feudal lords and was an exponent of the so-called *daimyō cha* 大名茶 style.

Another school of tea that arose through a pupil of Dōan is the tea ceremony style known as *Sōwa-ryū* 宗和流. The grandfather of Kanamori Sōwa 金森宗和 (1584–1656) had been a pupil of Rikyū, and his father had been a pupil of Rikyū's son Dōan. Kanamori adopted many of Enshū's stylistic innovations and additionally made extensive use of

FIGURE 3.33 Verdant serenity at the moss temple
PHOTO BY KUL PRASAD 'KRISHNA' SHIWAKOTI कुल प्रसाद 'कृष्ण' शिवाकोटी

the decorative painted ceramics known as *omuro-yaki* 御室焼 created by his friend, the artisan Nonomura Ninsei 野々 村仁清. Kanamori's style of tea featured boating excursions and pleasurable outings into the hills and fields. In this way, both the *Sekishū-ryū* and the *Sōwa-ryū* schools of tea deviated significantly from the austere *wabi* style which Dōan had sought to impart. Rikyū's biological son lived at the Sen family home in Sakai until his death, but he left no progeny and no inheritors.

Instead, the tradition of Rikyū would be passed on by his stepson and son-in-law Shōan 少庵 (1546–1614). Shōan was the son of Rikyū's second wife by her previous marriage to Miyaō Saburō 宮王三郎, a player of the Japanese hand drum known as the *tsuzumi* 鼓 who had died when Shōan was about seven years old. Shōan married Rikyū's own daughter Okame お亀, and in 1588 Shōan sent his son Sōtan 宗旦 (1578–1658) to live in the Daitoku temple 大徳寺 in Kyōto. After his stepfather's ritual suicide in 1591, Shōan too sought shelter from Hideyoshi's wrath and fled Kyōto to the domain of his father's disciple, the *daimyō* Gamō Ujisato 蒲生氏郷 at Aizu Wakamatsu 会津若松市 in today's Fukushima 福島 prefecture. Years later, Shōan returned, re-established the family home in Kyōto and took his son Sōtan out of the monastery at Daitoku temple to run the family home. Then Shōan himself retired to the tea cottage named *shōnantei* 湘南亭 in the famous moss garden on the grounds of the *kokedera* 苔寺 'moss temple', properly known as Saihō temple 西芳寺, just west of Kyōto.

FIGURE 3.34 A tea bowl or *chawan* 茶碗, a bamboo tea whisk or *chasen* 茶筅, a bamboo tea spoon called a *chashaku* 茶杓 and a lacquered wooden tea caddy or *natsume* 棗

Sen Sōtan had two sons by his first wife and two more by his second wife, and he was anxious to find employ for all four of his sons. He sent his eldest son to work in the estate of the powerfully rich Maeda 前田 clan in the Kaga 加賀 domain, in today's Kanazawa, where he vanished from the stage of recorded history. As a child, Sōtan's second son Ichiō Sōshu 一翁宗守 (1593–1675) was adopted into the family of a lacquer ware artisan. In later life, he abandoned his lacquer business in 1649 to Nakamura Sōtetsu 中村宗哲, who established a famous lineage of lacquer ware artisans. With his elderly father's permission, Sōshu then entered the service of the Matsudaira 松平 family, a wealthy samurai clan, and established a tea house on Mushanokōji 武者小路 street in Kyōto. His tea ceremony style and teachings evolved into the *Mushanokōjisenke* 武者小路千家 school.

Sōtan arranged an appointment for his third third son, Kōshin Sōsa 江岑宗左 (1619–1672), as a tea master for the House of Tokugawa. He designated this son as the heir to the Sen house, where he established the *Omotesenke* 表千家 school of the way of tea. Sōtan gave his fourth son Sensō Sōshitsu 仙叟宗室 (1622–1697) for adoption to the family of a physician, but the doctor died a few years later, and Sōtan was thus compelled to take his son back. He then arranged that his fourth son serve as a tea master of the affluent *daimyō* Maeda Toshitsune 前田利常 (1594–1658) in the Kaga 加賀 domain. The fourth son Sensō Sōshitsu established the famous *Urasenke* 裏千家 school of the way of tea.

The *san Senke* 三千家 'three Sen family schools' are essentially loconyms. The terms *omote* 'front' and *ura* 'rear' originally refer to the portions of the Sen 千 family property in Kyōto that were inherited respectively by the third and the fourth son, whereas *Mushanokōji* was the name of the street in Kyōto where the second son Ichiō Sōshu 一翁宗守 built his famous tea house Kankyūan 官休庵 and developed the eponymous style epitomised by this pavilion. There are cosmetic differences between the three Sen schools. The *chasen* 茶筅 bamboo whisk or *chashaku* 茶杓 bamboo tea spoon used by exponents of the *Omotesenke*

FIGURE 3.35
For most *matcha* drinkers the choice of bamboo scoop is a matter of personal taste, but some schools of tea prescribe or favour the use of a *chashaku* 茶杓 made of a particular type of bamboo.

school, for example, may sometimes be made of *susudake* 煤竹 'soot coloured' bamboo, whilst proponents of the *Urasenke* school use untreated bamboo, and green or naturally purplish bamboo is preferred by practitioners of the *Mushanokōji-senke* school. Proponents of the *Urasenke* school whip vigorously to generate lots of foam, whereas proponents of the *Omotsenke* school whip their tea with a trifle less vigour. Proponents of the *Urasenke* school are said to prefer bamboo whisks with about 160 tines.[56]

56 Gretchen Mittwer. 1999. 'Le chanoyu, l'art du thé au Japon', pp. 115–137 in Barrie and Smyers (op.cit.); Genshitsu Sen and Sōshitsu Sen. 2011. *Urasenke Chadō Textbook.* Kyōto: Tankosha.

Sōtan built three famous tea huts, first *konnichian* 今日庵 'hut of this day' and later *yuin* 又隠 'retiring again' and a *shoin* style tearoom named *kan'untei* 寒雲亭 'cold cloud arbour' for receiving guests. Particularly, the tea hut *yuin* is famed for embodying the canonical principles of tea, with its semi-gabled roof thatched with rush, its 4½ *tatami* mat layout on the north side of the hut, with white paper wainscotting on the lower portion of the two walls abutting the *tatami* area, dark blue paper wainscotting on the south and east walls, a low 1.75 metre ceiling of woven wooden slats with bamboo transverse pieces, a skylight on the southern portion of the ceiling, a *nijiriguchi* to crawl through on the eastern corner of the southern wall with a window of latticed reeds diagonally above the entrance.

FIGURE 3.36 The *shōgun* Tokugawa Iemitsu 徳川家光 (*regnabat* 1623–1651), who issued the *sakoku* 鎖国令 'enchained country' edict in 1635, as depicted in an Edo period portrait, Tokugawa Memorial Foundation

Sōtan retired in 1646, at which time Sōsa became head of the household. Sōtan died at the age of eighty-one in 1658. When Sōtan imparted the harsh *wabi* style of his grandfather to his sons, his way of tea was necessarily tempered by the lovely aesthetic which had become fashionable during the Kan'ei 寛永 portion (1624–1644) of the Edo period. This stylistic departure from the austerity of the Rikyū's original starkness is also palpable in the schools established by Sōtan's other pupils. The *Sōhen-ryū* 宗偏流 school was founded by Yamada Sōhen 山田宗偏 (1627–1708) and is currently headquartered in Kamakura 鎌倉. Fujimura Yōken 藤村庸軒 (1613–1699), more famous as a poet than a tea master in his day, established the *Yōken-ryū* 庸軒流 school. The harshly austere Sugiki Fusai 杉木普斎 (1628–1706) founded the *Fusai-ryū* 普斎流 school.

There are also other tea schools. For example, the *Uraku-ryū* 有楽流 school was established by Oda Urakusai 織田有楽斎 (1548–1622), also known as Oda Nagamasu 織田長益, who was none other than the younger brother of Oda Nobunaga. He converted to Christianity in 1588 and took the baptismal name of *João* 'John', yet he was also a tea master. Although Tokugawa Iemitsu

徳川家光 (*regnabat* 1623–1651) decisively put an end to the early Christian movement in Japan in 1638, the style of tea initiated by Oda Urakusai continues to this day. Some tea schools such as *Sekishū-ryū* 石州流 gave rise to numerous branches, each often known by its own name.[57]

A handful of Japanese tea ceremony schools trace their independent descent from other distinct lineages of tea masters. For example, the *Edosenke* 江戸千家流 school arose as a split-off from the Omotesenke school founded by Kawakami Fuhaku 川上不白 (1716–1806). Kawakami became a disciple of Tennen Sōsa 天然宗左 (1705–1751), alias Joshinsai 如心斎, the seventh generation head of the Omotesenke school. After Kawakami became a tea master, he set up his own tea house in Edo 江戸, as Tōkyō 東京 was then still known. In his tea manual entitled *Fuhaku hikki* 不白筆記 'Notes written by Fuhaku', he stressed that *waza* 業 'action' and *kokoro* 心 'heart' or 'mind' should become as one whilst performing the tea ceremony.[58]

The Tea Ceremony Fossilises

In his celebrated 1933 book, Arthur Lindsay Sadler meticulously documents the genealogies of the great Japanese tea masters from Nōami 能阿弥 (1397–1471) up to his own time and describes the particulars of the tea ceremony in painstaking detail.[59] Latter-day accretions and both essential and accidental details were compiled in a 1960 reference work by Sasaki Sanmi.[60] Most extant schools of the way of tea trace their master lineage back to Nōami or to one of the contemporaries of Rikyū, and the *Urasenke* school has been prolific in publishing handbooks and illustrated instruction manuals on their version of the tea ritual.[61] The entire ritual of the tea ceremony is imbued with symbolism and, when exercised properly, embodies a training in purity of spirit, consciousness and Zen practice.[62]

However, during the Kan'ei 寛永 portion (1624–1644) of the Edo period, the tea ceremony became stylised and institutionalised. At the same time that the number of schools and styles proliferated, the tea ceremony started to petrify into several superficially distinct ritual artistic forms.[63] The modern tea ceremony, in the words of Lafcadio Hearn, comprises numerous rituals and …

> requires years of training and practice to graduate in the art of them. Yet the whole of this art, as to its detail, signifies no more than the

57 Recently, Maoka and Minaka have presented a phylogenetic tree of thirteen tea ceremony schools (Tetsuo Maoka and Nobuhiro Minaka. 2004. 'The phylogeny of the tea ceremony procedure', *ICOS*, 2: 666–668). A comprehensive study using phylogeny as its *Leitmotiv*, but documenting the evolution of the various schools in great historical detail, would be of great historiographical interest.

58 Hakūn Yoshino and Ako Yoshino. 2001. 'The spirit of tea in the Japanese tea ceremony', *ICOS*, 1 (I): 57–60.

59 Arthur Lindsay Sadler. 1933. *Cha-no-yu: The Japanese Tea Ceremony*. Kōbe: J.L. Thompson & Co.

60 Sasaki Sanmi. 2002. *Chado, the Way of Tea: A Japanese Tea Master's Almanac* (translated from the Japanese by Shaun McCabe and Iwasake Satoko). Tokyo: Tuttle Publishing [first published in Japanese in 1960 under the title *Sadō Saijiki*].

61 Numerous manuals are available in Japanese. Manuals available in English translation include: Sen Sōshitsu XV. 1979. *Chadō: The Japanese Way of Tea*. Kyōto: Tankosha; Sen Sōshitsu XV, ed. 1988. *Chanoyu: The Urasenke Tradition of Tea* [translated by Alfred Birnbaum]. Tōkyō: Tankosha; Naya Yoshito. 2004. *Tearoom Conversation in English*. Kyōto: Tankosha; Sen Sōshitsu XVI. 2017. *Urasenke Tea Procedure Guidebook 1: Introductory Level*. Tōkyō: Tankosha; Sen Sōshitsu XVI. 2018. *Urasenke Tea Procedure Guidebook 2: Usucha Tea Procedure*. Tōkyō: Tankosha.

62 Ehmcke (op.cit.); Randy Channel Soei. 2016. *The Book of Chanoyu*. Kyōto: Tankosha.

63 Contemplative discussions of the tea ceremony include: Sen Sōshitsu XV. 1979. *Tea Life, Tea Mind*. Kyōto: Tankosha; Sen Sōshitsu XV. 1989. 'Reflections on chanoyu and its history', pp. 233–242 in Varley and Isao (op.cit.); John Whitney Hall. 1989. 'On the future history of tea', pp. 243–254 in Varley and Isao (op.cit.); William H. McNeill. 1989. 'The historical significance of the way of tea', pp. 255–263 in Varley and Isao (op.cit.).

FIGURE 3.37
A fresh bowl of frothy *matcha* in a *kiyomizu* ware 清水焼 tea bowl by ceramic artist Takemura Shigeo 竹村繁男, fired at the Dainichi kiln 大日窯 in Kyōto

> making and serving of a cup of tea. However, it is a real art—a most exquisite art. The actual making of the infusion is a matter of no consequence in itself: the supremely important matter is that the act be performed in the most perfect, most polite, most graceful, most charming manner possible. Everything done—from the kindling of the charcoal fire to the presentation of the tea—must be done according to rules of supreme etiquette: rules requiring natural grace as well as great patience to fully master. Therefore, a training in tea-ceremonies is still held to be a training in politeness, in self-control, in delicacy—a discipline in deportment.[64]

In 1867, the last year of the Tokugawa shōgunate, at the *Exposition universelle* in Paris, Japanese art pieces and Japanese tea were presented at a national pavilion for the first time, triggering an artistic current called *japonisme*. Two decades later, at the *Exposition universelle* of 1889, Japanese tea ceremonies were performed by viscount Tanaka Yoshio 田中芳男 in Paris. Georges Clemenceau and Émile Guimet are each known to have participated at one of these tea ceremonies.[65]

During the Tokugawa shōgunate, the tea ceremony gradually became accessible to other aspiring segments of the population. The tea ceremony had originally been an exclusively male domain. Similarly, *renga* poetry contests and *ikebana* flower arrangement were originally élite male practices. During the Tokugawa period, these arts gradually became common property and were no longer practised exclusively by the privileged. As these arts spread to the bourgeois strata of society and the ritualised forms of the tea ceremony became ever more petrified, a fundamental paradigm shift affected the tea ceremony and *ikebana* in particular. Not only were these traditionally exclusively male domains adopted by female practitioners,[66] but in time both the tea ceremony

64 Lafcadio Hearn. 1904. *Japan: An Attempt at Interpretation*. New York: Macmillan Company (pp. 390–391).

65 Barrie and Smyers (1999: 258–259).

66 Reiko Tanimura. 2009. 'The sacred and the profane: The role of women in Edo period tea culture', pp. 106–125 in Hohenegger (op.cit.).

and *ikebana* would come to be almost exclusively female domains, as they are today for the most part.

Yet the tea ceremony has in recent years begun to take a step in a new direction and so to go beyond being a pastime for ladies of leisure and a preparatory training in etiquette and poise before marriage. Today the tea ceremony is being propagated amongst male office workers as a relaxation technique promoting mental stability and stress resilience. At the same time, the Urasenke school has devoted 10 million yen to funding elementary schools that teach the tea ceremony as part of the regular curriculum. In modern Japan, teaism has been interpreted as an appreciation of the elegance of nature and the beauty in the commonplace circumstances of everyday existence. Yet the cultivation of beauty transcends mere aestheticism in embracing a lifestyle enhanced with beauty and refinement, and the revitalised spirit of the tea ceremony has therefore been associated with environmental conservation, anti-consumerism and the 'slow food' movement.[67]

The Manufacture of *matcha* and *tencha*

Matcha 抹茶 is green powdered tea made from ground *tencha* 碾茶 'milling tea'. Powdered *matcha* and *tencha* have been manufactured in Japan from pulverised leaves since the 13th century. As the name says, *tencha* is tea for milling and as such regarded as a half-finished product. *Tencha* is most often made from shade-grown tea leaves, and the leaves are dried whilst laid out flat, making it easier to further refine the half-product by removing the stems and the larger veins. The *tencha* is ground, traditionally in a stone mill, into a fine talc-like powder. The finer *matcha* is said to have more *umami* うま味 and hence more of a savoury quality and an inherently dulcet texture than the coarser *matcha* made from less refined *tencha* or from *tencha* harvested later in the season.

In the preparation of *matcha*, one to two scoops of powdered tea is added to the tea bowl or *chawan* 茶碗 with a bamboo tea spoon called a *chashaku* 茶杓. This elegant utensil consists of a slender piece of bamboo that is curved at the end. On a *chashuku*, a heaping spoon tip precisely measures out the correct amount of tea powder or, if thus preferred, more often 1½ spoon tips, or more, are taken for a richer texture and taste. After adding water, the tea is whisked into a frothy green beverage with a bamboo tea whisk or *chasen* 茶筅. This round hand-crafted segment of bamboo has very fine tines. The tea powder is kept in a lacquered wooden tea caddy or *natsume* 棗, and a small tea cloth or *chakin* 茶巾 is on hand for cleaning tea ware during the tea ceremony. *Matcha* served at its usual consistency, with a light layer of whisked froth on top, is called *usucha* 薄茶 'thin tea'. When made ceremonially as a thick viscous brew, the powder green tea is known as *koicha* 濃茶 'thick tea', made with three or more heaping *chashaku* 茶杓 scoops. For *koicha* often finer *matcha* is used. Whereas *usucha* is generally considered informal, Rikyū, with his characteristic sense for the paradoxical, stated that thin tea contained an element of the strictly formal, whereas *koicha*, which is regarded as formal, contained an element of the informal.[68]

Valuable information on this transformational period in the history of Japanese tea is preserved in reports by a German naturalist and physician in the employ of the Dutch East India Company. Engelbert Kæmpfer stayed in Japan from 1690 to 1692, and his writings helped further to popularise scientific knowledge about tea in the West. His

67 Satoko Tachiki. 2004. 'Teaism in pursuit of modern Japan', *ICOS*, 2: 658–661. The 'slow food' movement against the industrialisation of the food supply and the erosion of food quality began in 1986, when Carlo Petrini organised a protest against the opening of a McDonalds in Piazza di Spagna in Rome. The movement became international when a manifestation in defence of raw milk cheeses culminated in the presentation of a manifesto in Paris on the 10th of December 1989, signed by delegates from fifteen countries.

68 Hirota (1995: 25).

FIGURE 3.38 Table XXXVIII 'Tsja' from Kæmpfer (1727, Vol. 2, Appendix)

hefty five-volume *Amœnitatum Exoticarum*, which was published in his home town of Lemgo in Westphalia in 1712, contained an extensive section on tea. Kæmpfer's writings were just one source amongst many descriptive accounts available to scholars and literati on the Continent at the time, but Kæmpfer's impact in England would prove to be enormous.

Kæmpfer died in 1716, and in 1727 his two-volume *History of Japan* was published in London in English. This posthumous work was a heavily abridged version of his original 1712 work, and a German edition of this abbreviated work would only appear half a century later. The first section of the appendix to the *History of Japan* contained an English translation of the pages on tea which had already appeared in Latin in the third volume of his 1712 *Amœnitatum Exoticarum*. The plates illustrating tea plants and Japanese tea utensils were also the same as those published in the 1712 book.

At this time, virtually all the tea that arrived in England from Asia came aboard Dutch vessels, mostly from China. Kæmpfer's account fired the English imagination all the more because Japan

FIGURE 3.39
The premium *matcha* ice cream at ななや Nanaya in Shizuoka comes in seven different intensities.

was off limits to Englishmen, but Kæmpfer had enjoyed privileged access as an agent of the Dutch East India Company. After the exclusion of the Portuguese in 1639, the Dutch were the only Western power permitted to trade with Japan and to maintain a permanent presence there for over two centuries until 1853. Kæmpfer's account of tea in Japan exerted a tremendous influence. He distinguished between three principal types of Japanese tea, i.e. powdered tea, fine leaf tea and coarse Japanese tea.

Kæmpfer referred to *matcha* or powdered tea as *'Ficki Tsjaa'*. Actually, *hikicha* 挽き茶 is essentially a high grade of *matcha*, which, of course, is made from *tencha*. He described this tea as having to be made from 'the youngeſt and tendereſt leaves, or the very firſt buds … because by grinding it is reduced into a powder'. In comparison with other types of tea, Kæmpfer noted that the preparation of *matcha* required special care.

> The leaves of the *Ficki* Tea muſt be roaſted to a much greater degree of dryneſs, in order to be afterwards ground with ſo much the more eaſe, and reduced to a powder. Some of theſe leaves, being very young and tender, are put into hot water, and afterwards laid on a thick paper,

FIGURE 3.40
The ななや Nanaya *matcha* ice cream intensities 5 and 7

> and dried over coals, without being roll'd at all, becaufe of their being fo exceedingly fmall.[69]

Corroborating what we already know from Japanese and Portuguese sources of the period, Kæmpfer reported that the best *hikicha* of his day came from *'Udsi'*, i.e. Uji 宇治.

Around the world, aficionados can be found avidly to prepare and drink *matcha*. However, most of the *matcha* produced today is used in ice cream and other green tea flavoured comestibles. Consequently, *matcha* connoisseurs are all too aware of the difference between fine artisanal *matcha* and industrial grade *matcha*. In fact, anyone with a fine nose will quickly discern the difference between a bowl of tea prepared with fine grades of artisanal *matcha* and a froth whipped up using industrial grade *matcha*. Even so, just as many grades can be distinguished within artisanal *matcha* that has been finely ground on stone mills, industrial *matcha* too comes in various grades. The most famous green tea ice cream, made with a high grade of *matcha*, is sold at a shop called ななや *Nanaya* in Shizuoka prefecture. The name of the ice cream shop can roughly be translated at 'hepta-shop' or 'shop of seven flavours', where, in addition to other flavours of ice cream, there are seven intensities of *matcha* ice cream to choose from, ranging from the pleasantly mild № 1 flavour to the most intense 'Fujieda *matcha gelato* Premium № 7' 藤枝抹茶ジェラートプレミアム№ 7. In addition to their flagship store in Fujieda 藤枝, *Nanaya* ななや operates a busy little ice cream shop on Ryōgae-chō 両替町 in the heart of Shizuoka. Unfortunately for matcha ice cream lovers outside of Shizuoka prefecture, there are currently only two shops in Tōkyō, at Asakusa and in Shibuya.

Japanese Parched Green Tea or *kamairi cha*

Fine powdered green tea was the beverage of the higher echelons of society who conducted the tea ceremony, propagated under the aristocracy and samurai by Sen no Rikyū and his successors. The common people in Japan drank brick tea which had been ground and boiled, but loose leaf tea was also available in various grades. After green powdered tea, Kæmpfer described the widely consumed leaf tea infusion as the second type of

69 Kæmpfer (1727, Vol. 2, 'The Appendix to the History of Japan', p. 12).

FIGURE 3.41
The Zen preceptor Ingen Ryūki 隠元隆琦 (1592–1673), as depicted by Kita Genki 喜多元規 some time between 1664 and 1671, painting on paper, 133 × 50 cm, Important Cultural Property kept at Hōrin-in 法林院

Japanese tea, which is called '*Tootsjaa*, that is, *Chineſe Thea*, becauſe it is prepared in the Chineſe manner'. In contrast to the high-grade *matcha* which Kæmpfer recorded as *hikicha* 挽き茶, he noted that the *tōcha* 唐茶 'Chinese tea' consisted of loose leaves steeped in water and reported that the leaves harvested for the loose leaf tea were 'ſomewhat older, and fuller grown than thoſe of the firſt'.

Tradition attributes the popularity of green leaf tea in Japan to the Zen preceptor Ingen Ryūki 隠元隆琦 (1592–1673), who came from his native Fukien to Japan in 1654. In the tea town of Uji, he founded the Manpuku 萬福寺 temple on the hillock named Ōbaku 黄檗山. The school of Zen which he established is accordingly named *Ōbaku-shū* 黄檗宗. Ingen is also credited with popularising the drinking of the infusion of leaf

FIGURE 3.42
A *kyūsu* 急須 teapot in *kiyomizu* ware 水清水焼

tea in favour of drinking either fine powdered tea or boiled ground brick tea. Tradition traces the emblematic Japanese *kyūsu* 急須 teapot, with a handle protruding phallically from the side, as deriving from one of the teapots or *chabin* 茶瓶 which Ingen introduced. Such vessels continued to be used in China for the preparation of herbal medicines,[70] whilst in the course of the 17th century in Japan such vessels were stylised into the elegant teapots with a side handle still widely seen throughout Japan today.

The green leaf tea which Ingen popularised in Japan was parched green tea that had been roasted in a wok so that the leaves crackle and fermentation is stopped. Kæmpfer described the preparation of wok roasted leaf tea in Japan, where he lived from 1690 to 1692.

> The fire in the oven muſt be regulated ſo that the roaſter's hands are juſt able to bear it, and the leaves muſt be ſtir'd, till they become ſo hot, that he can ſcarce handle them any longer; that inſtant takes them out with a ſort of ſhovel, ſpread after the manner of a fan, and pours them upon the mat, in order to their being roll'd.[71]

Japanese green leaf tea differs from the preparation of Chinese Dragon Well tea in that the tea leaves are usually not flat but slightly curled. This traditional wok roasted green leaf tea still exists in Japan today under the name *kamairi cha* 釜炒り茶 'wok roasted tea'.

Kæmpfer categorised coarse Japanese leaf tea as tea of the third sort:

> The third chief ſort is call'd *Ban Tsjaa* [i.e. *bancha* 番茶]. The leaves of the third and laſt gathering belong to this ſort, when they are become too groſs and courſe, and unfit to be prepared after the Chineſe manner, (that is, to be dried in pans over fire and curled.) Theſe are deſign'd for the uſe of the vulgar, labourers and country people, no matter how prepared.

The tea that was called *bancha* in Kæmpfer's time was different from the tea that is denominated

70 In recent years, Yíxīng 宜興 versions of the *kyūsu* 急須 teapot have appeared in China as a new type of *chájù* 茶具 'tea implement', although in reality these vessels represent a Japanese motif that found its way back to the China in the same wave of influences emanating from Táiwān that was first set into motion in the 1970s, and which began with the popularisation of the *gōngfū* 工夫茶 tea ceremony on the mainland.

71 Kæmpfer (1727, Vol. 2, Appendix, p. 10).

bancha today. Today's *bancha* is quite often just an inferior grade of *sencha*, but at the time of Kæmpfer's sojourn in Japan *sencha* as such had not yet been invented, although *sencha* is today the most widely known variety of Japanese green tea. Rather, the *bancha* of Kæmpfer's time was a coarse grade of *kamairi cha* 釜炒り茶 (かまいりちゃ) 'wok roasted tea', and common *bancha* was made from mature leaves picked late in the season. Japanese tea technology has undergone continuous refinements since the 17th century, and neither the *bancha* nor the *kamairi cha* of Kæmpfer's time had yet become quite like today's more refined products. Kæmpfer described the preparation of this type of tea in the ubiquitous tea booths for travellers:

> The Tea ſold at theſe places is but a coarſe ſort, being only the largest leaves, which remain upon the ſhrub after the youngeſt and tendereſt have been pluck'd off at two different times, for the uſe of people of faſhion, who conſtantly drink it before or after their meals. Theſe larger leaves are not roll'd up, and curl'd, as the better ſort of Tea is, but ſimply roaſted in a pan, and continually ſtirr'd, whilſt they are roaſting, leſt they ſhould get a burnt taſte. When they are done enough, they put them by in ſtraw-baſkets under the roof [of] the houſe, near the place where the ſmoak comes out. They are not a bit nicer in preparing it for drinking, for they commonly take a good handful of the Tea-leaves, and boil them in a large kettle full of water. The leaves are ſometimes wrapt up in a ſmall bag, but if not, they have a little baſket ſwimming in the kettle, which they make uſe of to keep the leaves down, when they have a mind to take out ſome of the clear decoction.[72]

Of great interest are Kæmpfer's observations regarding the way that pan roasted green tea was graded in Japan, which was similar to the way that tea was graded in China, the first flush being valued most highly, and the autumnal flush representing the lowest grade.

> The Tea booth-keepers and Tea-merchants in Japan commonly ſubdivide this ſort into four others, which differ both in their goodneſs and price. The firſt of theſe contains thoſe leaves which are gather'd at the beginning of the ſpring, juſt when they appear, and when every young branch bears but two or three, and thoſe generally not yet open, nor come to perfection … a *Catti*, or a Dutch pound and a quarter of this ſort, prepared, coſts in Japan … from ten to twelve ſilver *Maas*, that is from ſeventy to fourſcore and four Dutch ſtuyvers … The ſecond ſort contains older leaves, and fuller grown, which are gather'd not long after the firſt … The leaves of the third ſort are ſtill larger and older, and one, and one *Catti* of theſe is ſold for four of five Maas of ſilver. The greateſt quantity of Tea, which is imported from China into Europe, is of this third ſort, and which is ſold in Holland for five, ſix or ſeven Gilders a pound is of this third ſort. The leaves, which make up the fourth ſort, are gather'd promiſcuouſly, and without regard to their ſize and goodneſs, at that time when every young branch is conjecture'd to bear about ten or fifteen leaves at fartheſt … it being that ſort which the generality of the natives commonly drink.[73]

In the quoted passage, Kæmpfer observed that tea of this lowest and least expensive grade represented the tea that was primarily exported from China to Europe on Dutch vessels. Far less Japanese tea was exported to Europe than Chinese tea because the Japanese teas were far more costly and also more highly valued in terms of their quality than the Chinese teas.

Though once widespread throughout Japan, today only few small-scale producers use the *kamairi* method of parching to halt fermentation. This technique is still practised on the southern

72 Kæmpfer (1727, Vol. 2, p. 428).

73 Kæmpfer (1727, Vol. 2, Appendix, pp. 8–9).

island of Kyūshū, particularly at Sechibaru 世知原町 in Nagasaki 長崎 prefecture, at Ureshino 嬉野市 in Saga 佐賀 prefecture, and in Kumamoto 熊本 and Miyazaki 宮崎 prefectures. Types of *kamairi cha* include *tama ryokucha* 玉緑茶 'coiled green tea' or *guricha* ぐり茶 'curled tea'. Unlike *sencha*, *kamairi cha* is little known outside of Japan, but *kamairi cha* has a characteristic delicacy and its own aromatic composition. Yet the taste of *kamairi cha* generally strikes some as more robust in some particular respect than that of *sencha*, yet paradoxically there is a temptation to brew a stronger pot of *kamairi cha*.

The low production capacity for *kamairi cha* in Kyūshū today is being enhanced by the introduction of new automated equipment such as the *hanukumeki* 葉温め機 'leaves warming machine' and the *jūatsuki* 重圧機 'pressure machine'. In a modern attempt to revitalise the popularity of this traditional type of tea through mechanisation of the production process, the *hanukumeki* pre-heats the tea leaves to about 60°C before they are loaded into the tea leaf parcher, reducing the volume of the leaves by 50 % by partial drying. This new step enables the loading of more tea leaves into the tea leaf parcher and enhances the productive capacity of the tea leaf parcher to 180 %. The *jūatsuki* feeds the tea leaves between a roller, that is 150 mm in diameter and 300 mm in length and turns at 100 rpm, and a belt, that is 300 mm in width, and applies a moderate pressure on the leaves in the middle of the parching process, reducing the electrical resistance of the leaves by about 35 % to 50 % and thus enhancing evaporation and improving tea quality.[74]

Based on the tea samples collected by Philipp von Siebold in the 1820s which he brought back to Leiden, researchers have inferred that in the first half of the 19th century equal amounts of parched and steamed tea were being produced in Japan.[75] Today, the manufacture of Japanese green tea overwhelmingly involves the steaming of the tea leaves to halt fermentation and prevent oxidation by inactivating the polyphenol oxidase and other enzymes in the leaves. This process yields the well-known Japanese green tea called *sencha*, and the technology of its production has proved to be more easily mechanised than the preparation of *kamairi cha*.

One study claims that an infusion of *kamairi cha* is clearer and less astringent than a *sencha* infusion, since the natural turbidity of *sencha* is greater than that of the more lucid *kamairi cha*. Moreover, the reduced astringency of *kamairi cha* has been attributed to a lower concentration of epigallocatechin gallate (EGCG),[76] an observation which appears to be corroborated by other studies. However, such generalisations belie the complexity of undertaking any such comparisons because there are many different grades of *sencha*, and there are differences between different types of *kamairi cha* as well. A number of tea connoisseurs, for example, have observed that the *kamairi cha* from Ureshino has a virile flavour that contrasts with the gentler taste of *kamairi cha* from Sechibaru.

Despite the fundamental difference between the two ways of halting the oxidation process, both *kamairi cha* and *sencha* have an unmistakable Japanese character in taste and aroma, whereas the parched Japanese *kamairi cha* tastes quite different than parched Chinese green teas. The distinctively Japanese character of *kamairi cha* may be a question of terroir or of procedures followed in the preparation and handling of tea that are specific to Japan, or both. The factors defining the effects of terroir are discussed in Chapter Ten. If panning is conducted in an optimal fashion, then rolling is facilitated by the residual mois-

74 Hirofumi Matsuo, Susumu Fujita and Kazuhiko Takashima. 2004. 'Improvement of productive capacity and quality for *kamairicha*', *ICOS*, 2: 298–299.

75 Isao Kumakura. 2001. 'A study of the tea used 170 years ago collected by Philipp Franz von Siebold', *ICOS*, 1 (I): 94.

76 Kazuhiko Takashima, Susumu Fujita, Hideki Horie and Katsunori Kohata. 2001. '*Kamairi-cha*, traditional Japanese green tea', *ICOS*, 1 (II): 292–295.

ture in the de-enzymed leaves. Firing is conducted at temperatures ranging from around 60° to 110°. Rolling usually takes less than an hour. At the beginning of the millennium, new automatic tea roasters were developed in the hope of popularising an automated version of the older parching method.[77]

John Coakley Lettsom came to Holland from the British Virgin Islands, where he had manumitted the slaves of his deceased father's sugar plantations, to defend his dissertation on tea at the medical faculty at Leiden.[78] He later translated his doctoral dissertation of 1769 from Latin into English and published the work in London in 1772. Leiden was the logical place for Lettsom to defend his medical treatise on tea because he had drawn his information on tea and on the Japanese tea harvests from Kæmpfer and other Dutch sources.

> In about ſeven years the ſhrub riſes to a man's height; but as it then bears few leaves, and grows ſlowly, it is cut down to the ſtem, which occaſions ſuch an exuberance of freſh ſhoots and leaves the ſucceeding ſummer, as abundantly compenſates the owners for their former loſs and trouble. Some defer cutting them till they are ten years growth …
>
> The firſt commences at the middle of the firſt moon, preceding the vernal equinox, which is the firſt month of the Japaneſe year, and falls about the latter end of February, or beginning of March … Theſe tender young leaves are but a few days old when they are plucked; and becauſe of their ſcarcity and price, are diſpoſed of to princes and rich people only; and hence this kind is called imperial Tea.
>
> The ſecond gathering is made in the ſecond Japaneſe month, about the latter end of March, or beginning of April.
>
> The third and last gathering, is made in the third Japaneſe month, which falls about our June, when the leaves are very plentiful and full grown. This kind of Tea called Ban Tsjaa, is the coarſeſt, and is chiefly drank by the lower class of people.[79]

In 1773, a year after the publication of the English translation of his dissertation on tea, Lettsom founded the Medical Society of London, the oldest surviving English society of physicians. Lettsom's 1772 work on tea, which featured beautiful botanical drawings of the tea plant in colour on the frontispiece, was widely read by erudite tea lovers in England, and a new edition was published in 1799.[80]

Sencha, *shincha* and *bancha*

Most famous for serving *kamairi cha* and afterwards especially for popularising the now ubiquitous *sencha* was Baisaō 売茶翁, the 'tea peddling sage' (1675–1763). As a child in the village of Hasuike 蓮池 in Hizen 肥前 province, his name had been Shibayama Kikusen 柴山菊泉. Today the erstwhile town of Hasuike has been wholly engulfed by the city of 佐賀 Saga in the eponymous prefecture on Kyūshū. Baisaō's father died when he was eight, and in 1686 at the age of eleven he received the tonsure from Kerin Dōryū 化霖道龍 (1634–1720) at Ryūshin 龍津寺 temple adjacent to Hasuike castle. His teacher Kerin, who had been

77 Shouhei Eguchi and Ayumi Eguchi. 2001. 'Methods of manufacture of Japanese tea and the newly developed automatic leaf roasting device', *ICOS*, 1 (11): 260–263.

78 John Coakley Lettsom 1769. *Dissertatio inauguralis medica, sistens Observationes ad vires theae pertinentes. Quam annuente summo numine Ex Auctoritate Magnifici Rectoris Bavii Voorda J.U.D. Juris Civilis et Hodierni Professoris Ordinarii nec non Ampliſſimi Senatus Academici Conſenſu, & Nobiliſſimæ Facultatis Medicæ Decreto, pro gradu Doctoratus Summisque in Medicina Honoribus & Privilegiis, ritè ac legitimè conſequendis, Eruditorum examini ſubmittit Joannes Coakley Lettsom, Tortola-Americanus. Ad diem XX. Junii MDCCLXIX. H.L.Q.S.* Lugduni Batavorum: apud Theodorum Haak.

79 Lettsom (1772: 15–16, 17, 18, 19).

80 John Coakley Lettsom. 1799. *The Natural History of the Tea-Tree, with Observations on the Medical Qualities of Tea and the Effects of Tea-Drinking. A New Edition.* London: Printed by J. Nichols for Charles Dilly.

FIGURE 3.43
Baisaō 売茶翁, the 'tea peddling sage' (1675–1763), as depicted by Itō Jakuchū 伊藤若冲 (1716–1800) in 1757 (93.3×41.6 cm, ink on silk)

a pupil of Ingen and who afterwards became the abbot of Ryūshin temple, gave him the monastic name of Gekkai Genshō 月海元昭. At the age of twelve, Baisaō visited the Manpuku temple 萬福寺 at Uji as Kerin's retainer, and nearby Kyōto he visited the Kōsan temple 高山寺 at Toganoo 栂尾, where Myōe 明恵 had first planted tea seeds five centuries before.

In 1696, at the age of 21 after recovering from a bout of severe dysentery, Baisaō undertook a pilgrimage to the Mutsu 陸奥 province in what today is the Tōhoku 東北 region. On his long way to northern Honshū 本州, he once again visited the Kōsan temple at Toganoo. Reaching Sendai, he settled in for four years at the Anyō temple 安養寺, located about 9½ km west of the site of today's Sendai central railway station. In Sendai, he studied under Gekkō Dōnen 月光道念 (1628–1701), a colleague and old friend of his teacher Kerin. In 1702, one year after Gekkō's death, Baisaō returned to Kerin in Hasuike. The following year, Baisaō visited Kyōto again, once more as Kerin's retainer. When Kerin then returned to Hasuike, Baisaō stayed behind at Manpuku temple in Uji and studied Zen under the Ōbaku school for four years. In 1707, he returned to the Ryūshin temple in Hasuike, where he stayed with the ageing Kerin until his death in 1720. Baisao's mother died in 1723, and in 1724 at the age of 49, Baisaō left Hasuike for Kyōto.[81]

For the next ten years, Baisaō led a peripatetic existence and grew increasingly disillusioned with monastic life. Some time between the age of 57 and 60, he adopted the heretical lifestyle of peddling tea because he was disgusted with senior monks, whom he described as venal toadies leading an easy and idle life of entitlement in the monasteries and showing repugnantly obsequious behaviour to the most generous donors. It was at this time that he adopted the name Baisaō 売茶翁 'tea peddling sage', by which he is remembered today. His tea stall, which he named *tsūsentei* 通仙亭 'connoisseur hermitage', was located on the east side of the Kamo 鴨 river near a bridge on one of the busiest thoroughfares leading from the city towards Tōfuku temple 東福寺.

In 1742, when Baisaō was 67 years old, he renounced monasticism and adopted the lay name Kō Yūgai 高遊外. That year he visited the tea planter Nagatani Sōen 永谷宗円 (1681–1778) at Yuyadani 湯屋谷, about 10 km southeast of Uji. Here this tea planter had, in 1738 at the age of 57 after fifteen years of experimentation, perfected an improved way of halting the oxidation process by steaming green tea leaves and then pressing them by rolling. Essentially, Nagatani had adapted a process which was used to manufacture *matcha* in order to yield a superior form of green leaf tea. The result was an improved form of leaf tea which has become known as *sencha* 煎茶, literally 'decocted' or 'infused tea' from the verb *senjiru* 煎じる 'infuse, decoct'.

Upon tasting Nagatani's tea, Baisaō was enraptured with the fragrance and natural savour, and he at once began to propagate this new improved form of green tea called *sencha*. In fact, the word *sencha* is older than the sophisticated production process developed by Nagatani, and the term could be used in the broad sense to refer to any type of green tea derived as an infusion of the leaves, as opposed to powdered green tea. Ever since Nagatani's technological innovation, however, the term *sencha* is most often used today in the newly narrow sense of *sencha* proper, produced by steaming, pressing and rolling. Just as Japan had conserved and perfected the Sòng Chinese practice of manufacturing and preparing powdered green tea, Japan later adopted the Míng Chinese predilection for an infusion of leaf tea and in the process refined green leaf tea to an unprecedented level of purity and elegance.

This new type of tea is the product which Baisaō undertook to popularise in his old age. Baisaō is

81 Graham (1998: 68–75); François Lachaud. 2004. 'Le sommeil de l'intellectuel: Quelques réflexions sur la modernité', pp. 75–93 in Haruhisa Kato, ed., *La modernité française dans l'Asie littéraire—Chine, Corée, Japon*. Paris: Presses Universitaires de France; Norman Waddell. 2008. *The Old Tea Seller: Life and Zen Poetry in 18th Century Kyōto by Baisaō*. Berkeley, California: Counterpoint.

FIGURE 3.44 Two cups of *sencha* served in a *kyūsu* 急須 and cups of Hagi ware 萩焼, which characteristically features pastel hues and the intentional imperfection of a notch at the base.

remembered not just for popularising *sencha*, but also for his poetry. In the same month that he died in 1763, his collected verses were published in Kyōto by his friends and admirers through the publisher Ogawa Genbei 小川源兵衛 under the title *Baisaō gego* 賣茶翁偈語 'verses of the old tea peddlar'.[82] One of his famous poems, which he wrote in 1743 at the age of 68, is entitled 'Three impromptu stanzas on selling tea' 賣茶偶成三首.

非僧非道又非儒
黑面白鬚窮禿奴
孰謂金城周賣弄
乾坤都是一茶壺

丱歳辭親謝世榮
頹齡立姓遁僧名
此身堪笑同蝙蝠
依舊賣茶一老生

祖道無功垂古稀
風狂被髪脱緇衣
世間出世放過去
唯此賣茶足拯饑[83]

I'm not Buddhist or Taoist
not a Confucianist either
I'm a brown-faced white-haired
hard-up old man.
People think I just prowl
the streets peddling tea,
I've got the whole universe
in this tea caddy of mine.

82 Graham (1998: 72–73); François Lachaud. 2014. 'The scholar and the unicorn: Antiquarians, eccentrics and connoisseurs in eighteenth-century Japan', pp. 343–371 in Alain Schnapp, ed., *World Antiquarianism: Comparative Perspectives*. Los Angeles: Getty Publications.

83 馬叢慧 December 2014 「売茶翁研究」 *Baisaō kenkyū*. 長崎大学大学院 Nagasaki University Graduate School; and thanks to Nishida Fuminobu 西田文信, cf. 「癸亥仲春賣茶翁游外書于雙丘寓舍」.

Left home at ten
turned from the world
here I am in my dotage
a layman once again;
A black bat of a man
(it makes me smile myself)
but still the old tea seller
I always was.

Seventy years of Zen
got me nowhere at all
shed my black robe
became a shaggy crank.
Now I have no business
with sacred or profane
just simmer tea for folks
and hold starvation back.[84]

Baisaō's renunciation of monkhood was to some extent just nominal, for, despite his unorthodox lifestyle as a tea peddlar, in his seventies he occasionally counselled young monks who sought spiritual guidance, and he periodically spent sojourns in monasteries as well. In 1755, at age of eighty, he stopped selling tea and famously flung his tea utensils into the fire, where they were burnt. With this act of defiance he expressed his disapprobation for the cult of cherishing tea implements and thus prevented his own tea utensils from falling into the hands of the kind of people whom he regarded as ostentatious snobs. Afterwards, Baisaō made his living as a calligrapher until he died at the age of 88 in 1763.[85]

After Baisaō's death, *sencha* was propagated by Kimura Kenkadō 木村蒹葭堂 (1736–1802) and Ueda Akinari 上田秋成 (1734–1809), both of whom indulged their love for the tea utensils used in the preparation of *sencha*, especially those originally used by Baisaō. With regard to this materialist perspective, it was as if Baisaō's act of consigning his most cherished tea utensils to the flames in order to discourage just such a predilection had been without effect. *Sencha* was served at the venal celebrity receptions known as *shogakai* 書画会, literally 'calligraphy and painting gatherings', which were *vernissages* of the late Edo period. Some attribute the very first *shogakai* to Kimura Kenkadō, who is known to have hosted one in the spring of 1783.[86] Yet an even earlier *shogakai* was held in the summer of 1782, and profit appears to have been the driving force motivating the organisers of these events.[87] The *shogakai* were venues at which to see and be seen, for which an admission fee was exacted.

A generation later, a veritable *senchadō* 煎茶道 tea ceremony would develop as an aesthetic practice at which the literati or *bunjin* 文人 would enjoy infused green tea. Relevant to the context of the emergence of *senchadō* is the scathing criticism of the *chanoyu* ritual which had been written a century earlier by a contemporary of Baisaō. The Confucian scholar Dazai Shundai 太宰春臺 (1680–1747) hailed from the town of Iida 飯田 in Shinano 信濃 province, which roughly used to cover the area that today makes up Nagano prefecture. Shundai decried the tea ceremony as pretentious and costly, described the confines of the tea room as asphyxiating and the custom of crawling through the low narrow opening of the *nijiriguchi* 躙り口 as demeaning.[88] By contrast, the *senchadō* was conceived by its proponents as a simple way to take tea, unfettered by the formulaic etiquette of *chanoyu*.

A century after this criticism of *chanoyu* had been vented, the *senchadō* ceremony was developed by the artists and aesthetes in the circle of Rai San'yō 頼山陽 (1780–1832). Yet *senchadō* too

84 Translation by Norman Waddell (2008: 137–138).
85 Graham (1998); François Lachaud. 2005. 'Le vieil homme qui vendait du thé: Excentriques de Kyōto au XVIIIe siècle', *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres*, 149 (2): 629–654; Waddell (2008).
86 Graham (1998: 116).
87 Andrew Markus. 1993. '*Shogakai*: Celebrity banquets of the late Edo period', *Harvard Journal of Asiatic Studies*, 53 (1): 135–167, esp. p. 139.
88 Paul Varley. 1989. '*Chanoyu*: From the Genroku epoch to modern times', pp. 161–194 in Varley and Isao (op.cit., pp. 174–176).

FIGURE 3.45 A water cooling vessel called *yuzamashi* 湯冷まし, used in *senchadō*, alongside two tea caddies with *sencha* scoops, one in copper and pewter and the other in traditional cherry wood showing the lenticels characteristic of cherry bark.

soon accrued the accoutrements, trappings and formulaic character inherent to ritual. However, just as with the traditional tea ceremony, the items employed are of very real utility. For example, the *yuzamashi* 湯冷まし is a water cooling vessel used in *senchadō*, for finer *sencha* is best brewed at much lower temperatures, below the usual 80°C. In fact, the very finest grades may be brewed with water at temperatures closer to 50°C. The *yuzamashi* aesthetically serves the purpose of holding the heated water close at hand whilst it cools down to the desired temperature.

The wealthy merchant Tanaka Kakuō 田中鶴翁 (1782–1848) popularised *sencha* in Ōsaka and was the first to record set procedures for the preparation of *sencha*, thereby establishing the first formally organised school of *senchadō*, which goes by the name Kagetsuan 花月庵. Tanaka had learnt the preparation of *sencha* from the Ōbaku school monk Monchū Jōfuku 聞中浄復, who had been a direct disciple of Baisaō. At the same time, the samurai physician Ogawa Kashin 小川可進 (1786–1855) popularised *sencha* in Kyōto, and established the Ogawa 小川 school of *senchadō*.

The new practice was viewed by some as a fashion of bourgeois dilettantes. The practitioners of *senchadō* primarily pursued *fūryū* 風流 'elegance', as expounded in Tanaka's treatise entitled *Naniwa fūryū hanjōki* 浪華風流繁昌記 'Records of the elegant pleasures of life'.[89] Unlike the lineages of the *chanoyu* tradition, which are invariably headed by a male *iemoto* 家元 or headmaster, even when many practitioners of *chanoyu*

89 Patricia Jane Graham. 1996. 'Searching for the spirit of the sages: Baisaô and sencha in Japan', *Sino-Japanese Studies*, 9 (1): 34–46, esp. pp. 44–45; Graham (1998: 148, 155).

nowadays are female, the ceremony of *senchadō* is practised by numerous autonomous schools, some of which are even headed by a female *iemoto*.[90]

The new *sencha* in the narrow sense of steamed, pressed and rolled green tea was embraced by monks at the Manpuku temple 萬福寺, where the Zen preceptor Ingen Ryūki 隱元隆琦 had first begun popularising green leaf tea from 1654. By the middle of the 19th century, the preparation and consumption of *sencha* had become a common part of daily life. Demonstrations of *senchadō* were conducted at the International Exposition at Ōsaka in 1970, marking the official sanctioning of the *sencha* tea ceremony as a traditional Japanese art. Today the most popular tea drunk throughout Japan is *sencha* 煎茶 'decocted' or 'infused tea'.

Literally speaking, *kamairi cha* is also infused, but once the improved technique of manufacturing *sencha* had been innovated by Nagatani in 1738, the new variety of leaf tea had quickly overtaken the traditional wok parched leaf tea in popularity. Today *sencha* has therefore essentially become the generic term for Japanese green tea made of rolled steamed leaves and prepared as an infusion. *Sencha* is generally made from tea leaves from the first or second flush and, at least when the term *sencha* is used in the strict sense, usually taken from unshaded tea plants.

It is well understood that *sencha* leaves must be steamed only briefly for just the right amount of time lest the leaves and stems turn yellow and the quality of the tea leaves decrease dramatically. The degree of steaming yields the different categories: *asamushi* 浅蒸し 'lightly steamed' for less than half a minute, with a steaming time of just twenty seconds sufficing for the finest shade-grown leaves, *chūmushi* 中蒸し 'medium steamed' for a duration between forty seconds up to as long as 1½ minutes and, finally, and *fukamushi* 深蒸し *sencha* that has been 'deeply steamed' for about two minutes to as long as 2½ minutes, a procedure particularly suited for bigger tea leaves that have grown up in the scorching sun. The more heavily steamed *fukamushi sencha* was first developed only around 1960 in Shizuoka, but aficionados say that its taste has already changed over time since then.[91]

The very first flush of the year yields *sencha* that is called *shincha* 新茶 'new tea'. The *sencha* that is harvested 88 nights after the beginning of spring is called *hachijūhachiya sencha* 八十八夜煎茶 'sencha of eighty-eight nights'. The late summer and autumnal flushes, chronologically the third and fourth flush, yield a lower grade of tea, which is categorised as *bancha* 番茶 'coarse' or 'common tea'. Finally, the *aki bancha* 秋番茶 'autumn' *bancha* is not made from entire leaves, but from the trimmed unnecessary twigs of the tea plant. Today's *bancha* is something other than the type of tea that was called *bancha* at the time that Kæmpfer visited Japan, half a century before *sencha* was invented. Today, roughly 40 % of the tea in Japan is produced in Shizuoka prefecture, which in Kæmpfer's time comprised the erstwhile provinces of Tōtōmi 遠江, Suruga 駿河 and Izu 伊豆. Particularly in Suruga, which covers most of the central part of today's Shizuoka prefecture, tea has long been produced.

The area is famous for scenic rows of vibrantly green tea bushes, neatly trimmed in perfectly rounded shapes, with Mount Fuji looming beautifully in the background. Yet alongside the tea bushes that are mechanically shorn at optimally timed intervals to ensure that only the newest growth is harvested, there are passionate tea planters who still produce fine Japanese tea with their own hands from leaves that have been carefully picked by teams of happy Japanese tea pickers, mostly women. One such garden tucked away at Uchimaki 内牧公 in the hills of Shizuoka prefecture is *Moriuchi cha nōen* 森内茶農園 'Moriuchi tea garden', run by the dedicated couple Moriuchi Yoshio 森内吉男 and Moriuchi Masumi 森内真澄. The couple manufacture the *sencha* themselves from the finest hand-picked leaves. Their tea

90 Graham (1998: 6).

91 Seiji Konita, Ako Yoshino and the Shizuoka *cha* culture and history research group. 2013. 'The history of *fukamushi-cha*', ICOS, 5, PR-P-66.

FIGURE 3.46
Moriuchi Masumi 森内真澄 and Moriuchi Yoshio 森内吉男 in their tea garden in Shizuoka prefecture

trees are fertilised organically, mainly with rapeseed meal and fish meal, which is supplemented with their own home-made compost. In their gardens, which slope quite steeply at many spots, the tea planting couple grows over four dozen different cultivars of tea, and their *sencha*, in particular their finest grades manufactured from the cultivars *tsuyuhikari* 露光 (つゆひかり) and *kōshun* 香駿 (こうしゅん), is deservedly reputed amongst tea cognoscenti and cherished by *sencha* connoisseurs.

Kabusecha, *gyokuro* and the Flavour *umami*

One of the qualities sought after in green tea is the taste called *umami* 旨味. The Nepali language distinguishes six cardinal tastes, i.e. *guliyo* गुलियो 'sweet', *amilo* अमिलो 'sour', *nunilo* नुनिलो 'salty', *tīto* तीतो 'bitter', *piro* पिरो 'pungent' and *ṭarro* टर्रो 'astringent'. It is conceivable that, prior to the discovery of the Americas and the dissemination of the chilli to Asia by the Portuguese, the Nepali word *piro* might originally have denoted the sensation

FIGURE 3.47
The biochemist Ikeda Kikunae 池田菊苗

of numbness[92] induced by the Himalayan pepper *Zanthoxylum*.[93] Biting into the outer pericarp or green husk of a freshly picked walnut or into an unripe persimmon will also give you the astringent taste sensation of *ṭarro*. Most of our taste perception is actually olfactory and perceived as a complex symphony of smells, aromas and fragrances through the nose, but these basic tastes are sensed primarily in the buccal cavity.

In April 1908, the biochemist Ikeda Kikunae 池田菊苗 discovered a seventh basic taste known as *umami*. Not only is *umami* perceived through the mouth, but this taste is the fifth flavour for which the tongue has unique receptors within the gustatory calyculi or taste buds, as it does for sweet, sour, salty and bitter. Ikeda first reflected on this flavour in 1907 in light of the difference in taste between a tofu soup prepared with and without the edible kelp named *konbu* 昆布. He discovered that the flavour imparted to the soup resulted from a compound contained in the seaweed which he soon isolated and identified as being monosodium glutamate. He patented the compound which came to be sold under the trade name *aji no moto* 味の素 'basis of flavour', and he used the term *umami* 旨味 or うま味, roughly 'savoury', to denote the flavour which it imparted.[94]

The taste sensation of *umami* has been found to be elicited by glutamate, inosinate and guany-

92 Today, at any rate, the tingling sensation of numbness is expressed by a verb, viz. *parparyāuncha* पर्पर्‍याउँछ 'it tingles, it imparts a sensation of numbness'.

93 Various species of *Zanthoxylum* are exploited in Asia for culinary purposes. The *ṭimur* टिमुर which is used in Nepal imparts a decidedly different taste from that of the Szechuan pepper (*huājiāo* 花椒) employed in Chinese cuisines. In East Asia, distinct species of the genus *Zanthoxylum* are used. The Dzongkha word for the Himalayan pepper is *thi-nge* ཐིང་ངེ, whereas the Tibetan word for the Himalayan pepper is *gYer-ma* གཡེར་མ་ [ēːmā]. The latter word underwent a semantic shift in Bhutan, where Dzongkha *'ema* ཨེ་མ་ has come to denote the chilli. Whether mixed with melted cheese or paired with dried yak meat, the chilli occupies a central position in Bhutanese gastronomy. The chilli was probably introduced to Bhutan by two Portuguese Jesuits, the 41-year-old Estêvão Cacella (1585–1630) and his 27-year-old companion João Cabral (1599–1669), who travelled through Bhutan from Bengal on their way to Tibet in late 1626 and early 1627. Ever since then, the chilli has been an emblematic ingredient of Bhutanese cuisine.

94 Japanese Culinary Academy (2015: 104).

late,[95] and these substances are richly present in food perceived to have the savoury flavour called *umami* in Japanese, such as *konbu* seaweed or aged cheese.[96] Whilst investigating the biochemistry of skipjack or bonito flakes in 1913, one of Ikeda's students, Kodama Shintarō 小玉晋太朗, first identified that the inosinates, which are salts derived from the precursor inosinic acid, also impart an *umami* flavour.[97] In 1957, Kuninaka Akira 国中明 ascertained that the guanylate found in shiitake mushrooms was yet another substance that imparted *umami* flavour.[98]

The theanine in green tea happens to be a specific glutamate derivative, which has also been shown to enhance glutamate levels in certain human tissues.[99] During the time of Sen no Rikyū and his successors, the practice of shading of tea bushes with mats made of rice straw is said to have been introduced in Uji in order to protect the tea leaves from volcanic ash after major eruptions. As observed by João Rodrigues during his sojourn in Japan between 1577 and 1610, however, the protection of the tea from the cold and hailstones provided yet another reason for erecting a protective roofing of bamboo or straw over the tea bushes.[100] It was discovered, however, that the shading of the tea leaves modified the taste of the *matcha* produced from the *tencha* manufactured from shaded tea bushes, rendering the tea rounder in taste.

Shaded tea bushes were found to yield a higher quality because the shading slows down the growth of the leaves, which turn a darker green due to the higher chlorophyll levels in response to the reduced sunlight.[101] Shading also causes a decrease in leaf thickness. The effects of shading on growth, leaf colour and the ingredients vary greatly depending on the degree of shading. An 85% shading makes the leaf colour a darker deeper green, whilst a 98% shading renders the leaf a lighter green, and a complete or 100% shading etiolates the leaves to white. The free amino acid content in the new shoots rise as the rate of shading increases. Particularly, tea bushes subjected to 100% shading bear more than double the free amino acid content of unshaded tea bushes. The arginine content increased threefold, the serine content nearly fourfold, whilst the asparagine content increased by about fifty times.[102]

Shading enhances the free amino acid content in tea, and the substance theanine makes up about

95 Takashi Yamamoto. 2015. 'Umami: A critical role in palatability of food', pp. 151–162, Vol. 1 in Winai Dahlan, ed., *Asian Food Heritage: Harmonizing Culture, Technology and Industry*. Bangkok: Institute of Thai Studies, Chulalangkorn University.

96 In 1957, Kinoshita Shukuo 木下祝郎 and his associates investigated *Micrococcus glutamicus*, the name of which was later changed to *Corynebacterium glutamicus*, and found that this bacterial strain could be exploited produce industrial amounts of L-glutamic acid (Kinoshita Shukuo, Udaka Shigezo and Shimonō Masakazu. 1957. 'Studies on the amino acid fermentation: Part I. Production of L-glutamic acid by various microorganisms', *Journal of General and Applied Microbiology*, 3 (3): 193–205).

97 Kodama Shintarō 小玉晋太朗. 1913. 'On the isolation of inosinic acid', *Journal of the Chemical Society of Tokyo*, 34: 751–757.

98 Kuninaka Akira. 1960. 'Studies on taste of ribonucleic acid derivatives', *Journal of the Agricultural Chemical Society of Japan*, 34: 487–492; Selamat Jinap and Parvaneh Hajeb. 2010. 'Glutamate: Its applications in food and contribution to health', *Appetite*, 55: 1–10; Kenzo Kurihara. 2015. 'Umami the fifth basic taste: History of studies on receptor mechanisms and role as a food flavour', *BioMed Research International* ⟨http://dx.doi.org/10.1155/2015/189402⟩, pp. 2–3.

99 Tomomi Sugiyama and Yasuyuki Sadzuka. 2004. 'Theanine, a specific glutamate derivative in green tea, reduces the adverse reactions of doxorubicin by changing the glutathione level', *Cancer Letters*, 212 (2): 177–184.

100 Michael Cooper, S.J., ed. 2001. *João Rodrigues's Account of Sixteenth-Century Japan*. London: Hakluyt Society (Livro I, cap. 32, pp. 272–276).

101 Yasuo Niwa, Hiroshi Nishikawa, Takenori Saito, Kazuhiro Ozawa, Ryotaro Seki, Yuji Moriyasu, Ryoko Kuroto-Niwa and Yukinori Tani. 2007. 'Greening of immature tea leaf by covering culture tea', *ICOS*, 3, PR-P-204.

102 Eiji Kobayashi, Yoriyuki Nakamura, Toshikazu Suzuki, Tetsuya Oishi, Kiyofumi Inaba and Yumiko Kaneko. 2010. 'The influence of strong shading by direct covering on the colour and the ingredients of tea leaves', *ICOS*, 4, PR-P-24.

FIGURE 3.48 Here in tea garden near Uji, synthetic black cheesecloth can be unfurled across a trellis built over the tea bushes when required

40 % of the free amino acid content found in tea. Today it is understood this increase in theanine is what enhances the *umami* or savoury quality of the tea, whilst levels of catechins and vitamin C are reduced.[103] In addition to their wholesome properties, the catechins are the main determinant of the astringency and bitterness of the tea. Tea that has been grown under shaded conditions, such as the more round and mellow *gyokuro*, contains lower levels of epigallocatechin gallate (EGCG), epicatechin gallate (ECG), gallocatechin gallate (GCG), epicatechin (EC), and catechin (C) compared to those grown under full sunlight. No significant change can be detected in the levels of epigallocatechin (EGC), however. Tea leaves grown under shaded conditions also contain higher levels of caffeine.[104] Shaded buds show smaller amounts of monoterpene synthetases and larger amounts of lipoxygenases than the buds of unshaded trees.[105]

103 Yasutaka Suzuki, Kanae Yamamoto, Hideyuki Katai and Kenta Kamiya. 2010. 'The effects of covering in tea cultivar *tsuyuhikari*', *ICOS*, 4, PR-P-25.

104 Yasuo Niwa, Takehiko Terashima and Yukio Kosugi. 2004. 'An analysis of the RNA expression level in tea leaves using a heterologous membrane array', *ICOS*, 2: 258–259.

105 Keiko Sakai, Taku Fuchita, Takeshi Ogawa, Eiji Koba-

The principal shade-grown teas in Japan are *matcha* 抹茶, *gyokuro* 玉露 and *kabusecha* 冠茶. Traditionally the tea plants are shaded with a bamboo construction erected over the plants on which a reed screen is laid and then straw is shaken onto the top of this reed screen. This technique is called *honzu* 本簀 shading, and it is still practised in the Kyōto region as well as by conservative tea planters in Shizuoka prefecture. Less expensive and less labour-intensive is the modern practice of suspending two layers of black cheesecloth over the tea plants. Shading also enhances the methylmethionine sulfonium chloride content in the tea, a compound which is converted into dimethyl sulfide when the tea leaves are heated during the process of manufacture.[106] The thatched canopy hut erected over the tea plants in and around Uji is locally called an *ōigoya* 覆小屋 (おおいごや).[107]

In 1836, decades before the biochemistry involved had been understood, Yamamoto Kahei VI 山本嘉兵衛, the owner of the Edo period tea company Yamamotoyama 山本山,[108] which had been founded in 1690, experimented with the shading of tea trees in the hope of being able to produce a *sencha* leaf tea that had the properties of the superior *tencha*, that is prepared from shaded tea bushes. The technique of shading (*kabuseru* 被せる) the tea bushes for one to three weeks before picking yielded a green tea with a milder edge than *sencha*. He developed a prototype of today's *gyokuro*, and the new product was called *tama no tsuyu* 玉の露 'orbs of dew'. Tea of this genre is today generically called *kabusecha* 冠茶 'covered tea' and brewed as if it were *sencha*. Before the harvest, *kabusecha* is subject to shading so that between 45% to 80% of the direct sunlight is blocked off for a period varying from one week to three weeks.

Most intimately involved in the development process was the Uji tea cultivator named Eguchi Shigejuro 江口茂十郎. By 1841, Eguchi had further perfected this technique and succeeded in producing an even higher grade of shaded tea by blocking between 55% and 60% of the direct sunlight for about one week to ten days, and then blocking off between 95% to 98% of all direct sunlight light for an additional ten days before the harvest, at which time the finest buds are hand-picked. For this newly developed type of tea he coined the poetic label *gyokuro* 玉露, composed of the elements *gyoku* 玉 'precious green jade' and *ro* 露 'dew'.

In 1905, the Portuguese consul Wenceslau de Moraes wrote the following appraisal of *gyokuro* from Kōbe.

> O cha japonês, servido invariavelmente sem leite e sem açúcar, que lhe prejudicariam o aroma, é a bebida mais suavemente agradável que possa oferecer-se ao nosso paladar (não de todos porém, mas um paladar sentimental, um tanto sonhador … que nisto dos nossos órgãos de sentir há temperamentos, aptidões afectivas características …). O *guiocuró*, por exemplo, que é o mais celebrado chá de Uji e de todo o Japão, instila tais subtilezas balsâmicas de sabor, que mais parece um perfume; poderia dizer-se que uma maravilhosa alquimia conseguiu liquefazer os aromas das flores—flores dos jardins, flores silvestres—transferindo do olfacto ao paladar a impressão do gozo.[109]

> Japanese tea, invariably served without milk and without sugar, which would only detract

yashi, Sohei Ito and Hiroshi Sakai. 2010. 'Gene expression profiling of some aroma relating enzymes in tea leaves', *ICOS*, 4, HB-P-62.

106 Maho Kanda. 2010. 'The production techniques of shade-grown high-quality tea in Japan: Matcha tea cultivation and production', *ICOS*, 4, PR-S-06.

107 Bōgoshi Asami, Nimoru Satoru, Goto Osamu and Nimura Kazumi. 2007. 'An associated institution and *tencha* factory of the severe shading tea field of Uji: A study of an innovation in the tea industry', *ICOS*, 3, CH-P-006.

108 The name of this company, written in Japanese, is a well-known palindrome that can be read in either direction.

109 Venceslau de Morais. 1905. *O culto da chá*. Kōbe: Kōbe Herald. [A second printing of the original was published in 2007 at Lisboa by Frenesi with a print run of 1,000 copies].

from the aroma, is the most gently pleasant drink which can present itself to the palate (though not everybody's palate, but the sentimental palate, to the somewhat dreamy palate … in whom this one of our senses is endowed with temperaments, discriminating affective skills …). *Gyokuro*, for example, which is the most celebrated tea of all of Japan, instils such balsamic subtleties of flavour that it seems to be a perfume. It could be said that some marvellous alchemy has liquefied the scent of flowers—flowers of the garden, wild flowers—thus transferring from the fragrance a feeling of joy to the palate.

In both types of tea, *kabusecha* and *gyokuro*, shading causes the amino acid theanine as well as the caffeine concentration in the tea leaves to increase, whilst the levels of catechins contained in the tea leaves decrease, thereby reducing the bitterness of the tea. Today *gyokuro* is made from the same shade-grown tea leaves that are used to make *tencha*, the only difference being that the tea leaves used to make *gyokuro* are rolled as they dry, just like normal *sencha*, whereas *tencha* is dried whilst laid out flat. Fine green leaf tea was principally consumed by the higher strata of Japanese society until the end of the Edo period in 1868.

Today, the finest grades of Japanese green tea are accessible to all in principle, but the more pricey and less ubiquitously available highest grades of fine green tea are naturally acquired and consumed mainly by those discerning tea connoisseurs who are willing to pay the price for the finer teas and are prepared to go out of their way to obtain such tea. Price, however, is not the only factor that causes these finer teas to remain exclusive products for cognoscenti. Many tea drinkers in the West have had their palate spoilt from being weaned on shredded CTC black tea brewed in tea bags, and some such tea drinkers may first require gradual exposure to finer leaf teas before progressing on to fine *sencha* and *gyokuro*. Even the average Japanese tea drinker, who is accustomed to decent Japanese *sencha* brewed from mechanically harvested leaves shorn from tea bushes, may require some gastronomical education in the form of a graded exposure to the luxury of the finest grades of teas in order to appreciate their aroma, texture and taste.

An infusion of the finest *gyokuro* is characteristically tinged with only the faintest suggestion of a verdant hue so that an inveterate black tea drinker might easily mistake the infusion for plain water at first glance. Yet a cup of *gyokuro* or fine *sencha* is potently packed with fragrance and taste. For some people, savouring such tea may represent an acquired taste, but, in fact, an appreciation of the subtle aromas of the finer grades of green tea comes naturally to anyone with a good nose. To bring out the gentle perfume of *gyokuro* and fine *sencha* unscathed, the tea is brewed at lower temperatures. Whilst regular *sencha* is usually brewed at 80°C, the finer grades of *sencha* are brewed at temperatures as low as 60°C, whereas *gyokuro* is brewed at temperature ranging from 60°C to 50°C. In the summertime, fine and tender *gyokuro* may even be brewed using chilled water.

In Japan, out of the total tea production of 90,000 tonnes in 2006, *sencha* accounted for 71% of the total tea output, *bancha* for 18% and *kabusecha* for 4%, whereas *gyokuro*, arguably the finest tea in Japan, accounted for just 0.2% of the country's tea production. The rarity of *gyokuro* is not just due to its exquisite fragrance and savoury taste, the commodity is also costly because its manufacture is labour-intensive. The tea leaves must be processed whilst freshly picked, and, as with the production of *matcha*, the stems and veins must be removed from the individual tea leaves to ensure that the product contains just the desired aromatic properties. The three principal centres for the production of *gyokuro* are Uji 宇治 just southeast of Kyōto 京都, Yame 八女 in Fukuoka 福岡 and Asahina 朝比奈 in Shizuoka 静岡.

One of the most celebrated *gyokuro* producers is the tea master Maejima Tōhei 前島東平 at Asahina, who grows not just tea, but is also a rice farmer. Maejima needs the rice not just for the

FIGURE 3.49 Tea plants shaded according to the traditional *honzu* 本簀 shading technique, with rice straw spread atop wooden slats
PHOTO COURTESY OF THE CHAMBER OF THE TEA ASSOCIATION OF KYŌTO PREFECTURE

edible grain, but more so, he insists, for the rice straw. He is one of the dwindling number of tea cultivators in Japan who shades the tea with a canopy of rice straw, whereas most *gyokuro* and *matcha* producers use synthetic cheesecloth that can be unfurled across a trellis built over the tea bushes at the required times. Moreover, this synthetic black cover can be gauged to let through just the desired percentage of sunlight. The *gyokuro* master Maejima, however, invites people to try standing both underneath the artificial dark cheesecloth and then beneath his natural shading of rice straw and to compare the muggy stuffiness underneath the synthetic canopy with the pleasant coolness underneath the traditional shading canopy of rice straw.

Maejima argues that tea trees are sentient beings and must be treated with the same compassion with which we should treat all sentient beings. Yet the rice straw canopy is not just considerably more expensive, preparing the rice straw canopy each year also demands many days of hard labour. The work in the tea garden takes ten times longer when done by hand, but Maejima argues that the result is better, and in 2017 at the age of 79 the boyishly agile *gyokuro* master sets up the rice canopy with his own hands, using his own rice straw. The same applies to picking the tea, which Maejima insists can only be done by hand. The best plucking season lasts only three to four days, and trees that are picked by hand retain their natural bushy shape rather than adopting an imposed geometrical form. However, economic exigencies have resulted in the practice that more than 90% of all Japanese tea is shorn from the bushes by shaving machines. Yet the finest tea is still picked by hand.

The cultivars grown by Maejima for producing his *gyokuro* are *saemidori* 冴緑 (さえみどり),

gokō 後光 (ごこう) and *okumidori* 奥緑 (おくみどり), whereas only 15% of his tea bushes are of the popular variety *yabukita* 薮北 (やぶきた). Each year, the *saemidori* and *yabukita* bushes are picked first, followed by the *gokō* and then last the *okumidori*. Maejima uses no pesticides after October so that the tea leaves have not been exposed to any pesticides for at least 180 full days before the harvest, and all the harvested tea from which his *gyokuro* is produced comes from the flush of new growth that sprouted after the winter. Maejima stresses that there is no need for pesticides during the Japanese winter, but spraying lightly in the autumn leads to healthy parent leaves, which give rise to healthy children buds. The pruned tea branches serve as tea tree fertiliser underneath his trees. At the time of writing, this inspired and highly idealistic producer of exquisite *gyokuro* sells most of his tea to Mariage Frères in Paris.

Miscellaneous Other Types of Japanese Tea

There are three types of Japanese tea which are essentially by-products of the manufacture of *sencha*. *Kukicha* 茎茶, which literally means 'stalk tea' or 'stem tea', is made of the tea stems, stalks and twigs that are left over when producing *sencha*. This tea is also known as *bōcha* 棒茶 'bar' or 'baton tea'. The finer varieties of stem tea, left over from *gyokuro* production, are called *karigane* 雁ケ音 'lesser white-fronted goose *Anser erythropus*' or *shiraore* 白折 'white opportunity'. Some drink this type of tea as part of a macrobiotic diet. An infusion of tea stems and tea stalks has a flavour quite different from that of leaf tea and also contains significantly less caffeine. *Kukicha* is not to be confused with *aracha* 荒茶 'rough tea', which is a half-finished stage in the manufacture of *sencha*, still containing leaf stems and broken bits of leaf.

A second by-product in the manufacture of *sencha* is *mecha* 芽茶 'shoot tea'. Although essentially a by-product consisting of coarse broken tea leaves and round little buds generated during the sifting process, *mecha* too is drunk as a tea in its own right. Although *mecha* can be relatively inexpensive, its taste can approach that of *sencha* because of the high proportion of tiny buds which it contains. Furthermore, *mecha* is more astringent and bitter than most *sencha* and therefore especially suited to being served after sushi to cleanse the palate, as is often practised. Fine *gyokuro mecha* is also produced.

A third by-product in the manufacture of *sencha* is the pulverised tea called *konacha* 粉茶, literally 'powder tea'. Basically *konacha* is tea dust made up of the ground dust and bits left over from making *gyokuro* and *sencha*. Therefore, *konacha* is not milled tea in the form of a fine powder like *matcha*. *Konacha* is cheaper than *sencha* and, like *mecha*, is often served in sushi restaurants. Yet *konacha* is purported to be essentially of the same high quality as the *sencha* of which it is a by-product, except that the tea infuses quite rapidly because it is already so highly particulate in nature. In fact, *konacha* makes a perfectly potable green tea but does not by far have quite the same taste or aroma as *sencha*.

Konacha is sold under various brand names. For example, the famous Kyōto dealer in fine Japanese teas Ippōdō 一保堂, founded in 1717 and sometimes purveyor to the Japanese imperial court, markets its *konacha* under the name *hanako* 花粉 'flower powder'. Boiling water is poured through two tablespoons of fine *konacha* held in a strainer to yield about 400 ml of green tea. The *konacha* that is milled exclusively from *gyokuro* dust is called *gyokuroko* 玉露粉 'gyokuro powder'. This beverage is prepared in the same way but with water at 80°C poured through two tablespoons of fine *gyokuroko* held in a strainer to yield about 400 ml of a savoury and salubrious green tea, brewed in an instant.

There are also three types of roasted tea in Japan, one of which is not a tea. These three roasted teas differ from each other greatly. *Genmaicha* 玄米茶 'brown rice tea' is a combination of green tea with roasted brown rice. The green tea is usually *bancha*, but a higher-grade *sencha* is also sometimes used, depending on the desired quality

of the *genmaicha*. Originally a pauper's tea which substituted roasted rice for fine tea leaves, this beverage is widely appreciated by virtually all tea drinkers in Japan today as an occasional alternative to standard green tea. In a batch of *genmaicha*, a few kernels of rice may have popped during the roasting process and thus come to resemble roasted maize, but popped rice is much smaller than popcorn. The quality of the roasted brown rice is a stronger determinant of the quality and flavour of the *genmaicha* than the leaves, though finer *genmaicha* is indeed made with finer tea leaves. The trick to brewing *genmaicha* is to use boiling water but to let the tea steep for only half a minute, although steeping times are essentially a matter of personal preference notwithstanding the widespread penchant for prescriptive steeping durations.

The copper-coloured *hōjicha* ほうじ茶 'roasted tea' was originally green before it was roasted above a fire in a porcelain pot with a handle called a *hōroku*焙烙, whence the name of the tea. Consequently, the tea tastes a bit toasted, but *hōjicha* has a lower caffeine content and is therefore well suited to be taken as an evening or bedtime tea. Since the tea leaves have already been roasted brown in a pot, *hōjicha* is steeped by adding boiling water.

For the most part, roasted tea is made from *bancha* rather than from a finer *sencha*, but there are roasted teas made from *sencha* as well. *Hōjicha* is believed to have been innovated in Kyōto in the 1920s. Very much unlike green tea and even quite distinct from *genmaicha*, the flavour of good *hōjicha* can impart a sense of warmth and be wonderfully delicious. What type of tea people drink is a matter of individual taste, both in Japan and elsewhere, but one strain of conventional wisdom about the effects of caffeine advocates the guideline that *sencha* and *tencha* are drunk in the morning, *genmaicha* in the afternoon and *hōjicha* in the evening.

Finally, *mugicha* 麦茶 'barley tea' is not a tea at all, but a tisane made of roasted barley. In fact, *mugicha* is essentially a modern *avatār* of the original tisane because the original tisane of the ancients was *ptisánē* πτισάνη, a warm medicinal brew made from ground barley. Such a drink also exists in China as *dàmàichá* 大麥茶 and in Korea as *porich'a* 보리차. The practice of roasting grain is old and widespread. In India, flour made from roasted grains and pulses is called *sattū* सत्तू in Hindi, whereas in Nepal the Nepali term *sātu* सातु is used. Sometimes *sattū* is also made from barley, and *sattū* is also often incorporated into drinks.

In a similar vein, an infusion of roast buckwheat is drunk in Japan under the name *sobacha* そば茶 and in Korea under the name *memilch'a* 메밀차 'buckwheat tea'. Infusions of roast grains are popular in Korea, where *hyŏnmich'a* 현미차 'brown rice tea' and *oksusuch'a* 옥수수차 'maize tea' are also brewed. In this open-ended genre of warm infusions that actually contain no tea, a warm Japanese broth made from the extract of shiitake mushrooms, called *shiitakecha* 椎茸茶 (しいたけ茶), makes a savoury drink and even occasionally comes with an added secondary flavour accent.

The Far East has therefore retained the practice of a warm beverage specifically made from ground roasted barley, as once imbibed in ancient Greece.[110] There are those who love *mugicha* 麦茶, but the roasted barley used in the modern Japanese variety of *ptisánē* has been found to contain between 200 and 600 µg of acrylamide per kilogramme.[111] Since ancient times, *ptisánē* has been universally hailed as a health tonic, but acrylamide is not a salubrious ingredient. The acrylamide content may result from the very deeply roasted nature of some Japanese *mugicha*. It might prove health-

110 Another practice of Mediterranean antiquity that has been lost in the West but is retained in the East is the use of fermented fish sauce as the once widely relished condiment known in Latin as *garum*, evidently quite similar to Thai *nám pla:* น้ำปลา 'fish sauce'.

111 H. Ono, Y. Chuda, M. Ohnishi-Kameyama, H. Yada, M. Ishizaka, H. Kobayashi and M. Yoshida. 2003. 'Analysis of acrylamide by LC-MS/MS and GC-MS in processed Japanese foods', *Food Additives & Contaminants*, 20 (3): 215–220.

ier for *mugicha* aficionados to cultivate a taste, and consequently to generate a greater commercial demand, for qualitatively superior more lightly roasted renditions of *mugicha*.

Almost all of the Japan's tea production is green tea. However, two lactic acid fermented or genuine dark teas are produced on the island of Shikoku. The heavily fermented *goishi cha* 碁石茶 is a very dark tea made from pickled *bancha* in Kōchi 高知 prefecture on Shikoku. The more lightly fermented *awa bancha* 阿波番茶 is likewise a lactic acid fermented tea, but retains some more unfermented or green portions. *Awa bancha* is drunk as an evening tea and made in Tokushima 徳島 prefecture on Shikoku. Bacterial and fungal species isolated from *awa bancha* include *Lactobacillus plantarum*, *Lactobacillus pentosus*, *Enterococcus faecium* and various species of the genera *Leuconostoc, Streptococcus, Bacillus, Pseudomonas* and *Aspergillus*.[112]

When Japan was compelled under American pressure to liberalise trade and reduce tariffs in 1971, Japan's modest black tea industry ground to a halt, but Japanese black tea survived in its traditional centre at Makurazaki 枕崎 in Kagoshima 鹿児島 prefecture. Since the beginning of the 21st century, *wakōcha* 和紅茶 'Japanese-style black tea' has made a modest comeback and is produced by a small number of producers, such as Mikuniya Zengorō 三國屋善五郎.[113] Not only are these black teas made with Japanese techniques, these malty teas also have the distinctive taste of the Japanese terroir. Japanese tea producers manufacture many small artisanal teas, some of which are still *tezumi* 手摘み 'hand picked'. As opposed to black tea, organic white tea from leaves that delicately unfurl in water is produced near Gokase 五ケ瀬 in Miyazaki 宮崎 prefecture. White teas made from gently steamed young soft leaves are produced in Shizuoka 静岡 prefecture.

Traditional Japanese *matcha* should not be confused with the brand new instant tea called *funmatsucha* 粉末緑茶 'fine powder green tea', which consists of tea leaves ground into a very fine powder. *Funmatsucha* is made from regular tea leaves, and not milled from fine *tencha*, which is made from leaves that have been grown in the shade. Consequently, *matcha* contains higher amounts of theanine and imparts a gentle round flavour, whereas *funmatsucha* tastes like very strong *sencha*. The astringency of *funmatsucha* is due, in part, to higher concentrations of catechins. *Funmatsucha* is therefore drunk by those who wish to enjoy the health benefits of imbibing the entire tea leaf itself in powdered form and for its ease of preparation. *Funmatsucha* is also referred to as *tokeru o-cha* 溶けるお茶, which simply means 'soluble tea'. Additionally, today bottled tea beverages abound in Japan's beverage market, and bottled green tea and oolong are top sellers. Every year a huge amount of tea leaves are imported into Japan from Fukien and transformed into bottled tea.

Japanese Tea Culture Travels Abroad

In 1853, commodore Matthew Calbraith Perry sailed four American ships into Tōkyō Bay and, with a display of force, aggressively coerced the Japanese into accepting an intrusive Western presence very different from the relations on the basis of equality and mutual respect which had characterised Japanese relations with the Dutch for the preceding 253 years. In 1854, the United States coerced Japan into accepting the Kanagawa Convention, and then in 1858 the Treaty of Amity and

112 Tamura Asako, Kato Miyuki, Omori Masashi, Nanba Atusko and Miyagawa Kinjiro. 1994. '後発酵茶に存在する微生物の特徴' ["Characterisation of microorganisms in post heating fermented teas in Japan"], *Journal of Home Economics of Japan*, 45 (12): 1095–1101; Miyuki Katoh, Mie Inoue, Yoshinobu Katoh, Hiroko Nagano and Masashi Omori. 2010. 'Characterisation of microorganisms in post heated fermented tea (*awa bancha*)', ICOS, 4, PR-P-61.

113 Hiroshi Takano, Tadashi Goto and Yuko Umemori. 2013. 'The amount of waste tea (*chashibu*) in the process of making green tea and its catechin content', ICOS, 5, PR-P-22.

Commerce negotiated by Townsend Harris, which dictated unequal terms and stipulated foreign concessions on Japanese territory and extraterritoriality for foreigners in Japan. One consequence of these treaties, however, was that Japanese tea came to be traded at the port of Yokohama and so became directly available to Western merchants other than Dutchmen.

By 1859, the export of Japanese tea already grossed 181 tonnes, and much of this was destined for the United States, where both *sencha* and roasted green tea appealed to the American consumer. As a consequence of the treaties imposed upon Japan, domestic turmoil ensued which culminated in the downfall of the Tokugawa shōgunate in 1868. After the Meiji Restoration in 1868, power was restored to the imperial house, and Japan began to modernise at a frantic pace in order to outpace the threat of Western colonial powers. In 1868, the port of Kōbe was opened to foreign trade and at once eclipsed Nagasaki in importance and volume of trade.

Tea production was encouraged by the government, and some of the former samurai turned to setting up large tea plantations, and tea cultivation expanded from the mountains onto vast tracts of the plains. Tea grown in the mountains is now touted as 山茶 *yama-cha*, and some ascribe a great antiquity to these trees, a claim which for many such trees is no doubt dubitable. At the instigation of the Japanese government, even the *assamica* variety was introduced both to Japan as well as to Japanese Formosa for the production of black teas in the Anglo-Indian mode, and such black tea was produced and exported both from Japan and Formosa.

From the time of Baisaō, the manufacture of *sencha*, at first gradually and then quickly and inexorably, began to supersede the production of *tencha* and *matcha* so that *sencha* today accounts for 80% of total Japanese tea production. From the opening of the port at Yokohama in 1859, imported Japanese *sencha* also enjoyed great popularity in United States. By the outbreak of the First World War in 1914, America was consuming nearly half of Japan's green tea production and a large portion of Japan's more modest black tea production as well. The volume of Japan's tea exports fell during the war as the cost of Japanese tea labour rose, and, after the First World War, Japanese green tea never regained the level of its *fin-de-siècle* popularity in the United States.[114] Nonetheless, the American love affair with *sencha* lasted until the attack on the American naval base at Pearl Harbor by an air squadron of the Japanese imperial navy in December 1941.

The green tea produced for export was not all steamed *sencha* or pan-fired green tea parched in a wok. In 1876, the procedure of firing tea leaves in a large round concave bamboo basket over hot coals was innovated in Shizuoka prefecture.[115] The heat must be gentle enough not to burn the bamboo. The bamboo baskets only last for a few days before having to be replaced. Until a law was passed in 1882 prohibiting the import of adulterated teas into the United States, some tea from Japan was dyed with artificial colour. Although the per capita consumption of tea in the United States was not exceedingly high, America had at this juncture in history become the largest single buyer of Japanese tea. In 1898, the tsar of the Japanese tea trade Ōtani Kahei 大谷嘉兵衛 (1844–1933) travelled to Washington to meet President William McKinley to complain about the steep tariffs being imposed upon Japanese tea.

During an alliance with tea producers and tea merchants, the Urasenke school became the largest of the tea schools after the Meiji Restoration. Few former samurai families are still involved in the large tea plantations today, since entrepreneurs and businessmen of various stripes have moved into the tea market and continuously modernised the tea industry with an ongoing rationalisation of production and the constant innovation of technological improvements in both cultivation and manufacture. Japanese tea exports naturally stopped during the Second World War. After the

114 Ukers (1935, II: 212).
115 Ukers (1935, II: 216).

war, exports resumed, but, just as in the old days, the Japanese product was more expensive than other teas.[116]

In 1905, the tea lover Wenceslau de Moraes, also known as Venceslau de Morais, attempted to rekindle and disseminate an interest and knowledge of Japanese tea culture in the West. In Kōbe, where he served as the Portuguese consul, he published the art book on Japanese tea culture *O culto da chá*, adorned with beautiful colour prints. The book was published in a print run of 1,800 copies, a thousand of which were shipped to Lisbon for sale. The original edition has become a collector's item. A second edition came out in 1933, and a facsimile was printed in Macau in 1987.[117] His life and work in Japan have continued to attract literary attention, and even the circumstances of his death in Tokushima at the age of 72 has provided a source of morbid literary speculation.[118] His book on Japanese tea culture made a splash in Portuguese literary circles but drew little attention outside of the lusophone world. A year later an erudite and inspired work written in beautiful prose would be published in English which would become highly influential.

In 1906, the Japanese scholar and art historian Okakura Kakuzō 岡倉覚三 dazzled Bostonian high society and artistic circles in America with the publication of *The Book of Tea*. Okakura travelled to Europe, America, India and China, and he was 44 years old when his book on tea was published in New York. In his native Japan, he is more commonly known as Okakura Tenshin 岡倉天心. His essay, written in English, eloquently explained the aesthetic and spiritual aspects of Japanese tea culture for a Western audience.[119] In lovely prose, Okakura described the historical succession of the Táng dynasty predilection for boiled tea, the Sòng dynasty fascination with whisked tea and the Míng preference for steeped tea in terms of a progression from the Classical via the Romantic to the Naturalistic. Some of his Western readers of the day would not have had the opportunity ever to taste fine Japanese tea, but his writing imbued tea with a sense of the mystique of Zen in the mind of the Western reader and reminded his audience of the land where, in the 16th century, tea began its journey to become a global beverage. *The Book of Tea* ends with the ritual suicide or *seppuku* of the famous tea master Sen no Rikyū 千利休 in 1591.

Japanese Tea Cultivars and Tea Production

Tea is grown not only at the famous gardens at Uji 宇治. The highest production is perhaps in Shizuoka 静岡 prefecture, but other important areas for tea production include Mie 三重 prefecture on Honshū and Fukuoka 福岡, Saga 佐賀, Kumamoto 熊本 and Kagoshima 鹿児島 prefectures on Kyūshū. In Japan, tea is grown between Akita at 40°N and Okinawa at 26°N, with the famous northernmost tea cultivated in the snowy tea gardens of Murakami 村上 in Niigata 新潟 prefecture just north of 38°N. It has been experimentally established that tea can survive in temperatures as low as −18°C, and tea used to be grown in Japan in all prefectures including Hokkaidō.

Historically the geographical distribution of tea gardens in Japan in 1877 extended much further north than it does today, where tea plantations are predominantly, but not exclusively, concentrated

116 Junichi Tanaka. 2012. 'Japanese tea breeding history and the future perspective', pp. 227–239 in Chen, Apostolides and Chen (op.cit., p. 228).

117 de Morais (1905).

118 Maria Manuela Silva e José Marinho Álvares. 1986. 'O universo enigmático de Wenceslau de Moraes' (pp. 45–66), 'Moraes e a visão mítica do Nippon' (pp. 67–74), 'A visão do Oriente em Wenceslau de Moraes' (pp. 75–81) in *Ensaios Luso-Nipónicos*. Lisboa: A. Coelho Dias, Lda.; Helmut Feldmann. 1987. *Wenceslau de Moraes (1854–1929) und Japan*. Münster: Aschendorffsche Verlagsbuchhandlung.

119 The original 1905 and 1906 editions are collector's items. A handsome modern edition containing a valuable foreword and afterword by Soshitsu Sen XV is: Okakura Kakuzō. 1989. *The Book of Tea*. Tokyo: Kodansha International.

FIGURE 3.50
Okakura Tenshin 岡倉天心, alias Okakura Kakuzō 岡倉覚三, depicted on a Japanese ten yen postage stamp issued on the 3rd of November 1952

in Shizuoka prefecture and the Kansai region and on Kyūshū, particularly southern Kyūshū.[120] With an annual yield of 32,200 tonnes, about 38% of all Japanese tea is grown in Shizuoka prefecture. Kagoshima prefecture takes second place, with an annual yield of 25,600 tonnes accounting for 30% of total tea production. By contrast, the traditional tea growing areas around Kyōto and Uji today account for just about 3.5% of total production, with a current annual harvest of 3,020 tonnes, but Uji retains its well deserved fame for exquisite *matcha*, *sencha* and fine *gyokuro*. In all of Japan, approximately 84,800 tonnes are produced annually on about 45,400 hectares of land devoted to tea plantations. Today, 98% of Japanese tea production yields green tea, with 75% of tea production being devoted specifically to *sencha*. However, only 500 tonnes of *tencha* are produced each year.

Until the 1970s, some tea breeding also aimed at varieties more suitable for the manufacture of black tea, but black and fermented teas form a small specialty niche. The lion's share of *sencha* produced in Japan is made from the leaves of the *yabukita* 薮北 (やぶきた) 'bamboo north' cultivar, whereas the cultivars *asahi* 朝日 (あさひ) 'morning sun', *okumidori* 奥緑 (おくみどり) 'deep green', *yamakai* 山開 (やまかい) 'mountain open' and *saemidori* 冴緑 (さえみどり) 'clear green' are often used in the production of *gyokuro*. Other major cultivars used in *sencha* production include *yutakamidori* 豊緑 (ゆたかみどり) 'rich green', *kanayamidori* 金谷緑 (かなやみどり) 'Kanaya green', *sayamakaori* 狭山香 (さやまかおり) 'Sayama green' and *meiryoku* 茗緑 (めいりょく) 'late picked tea'.

The two cultivars most favoured by Japanese tea planters producing *matcha* are *asahi* 朝日 (あさひ) 'morning sun' and *samidori* 早緑 (さみどり) 'early green'. The Kyōto Prefectural Agricultural Experiment Station conducts tea breeding programmes aimed at developing varieties specifically suitable for the production of *matcha*. The cultivars *unkai* 雲海 (うんかい) 'sea of clouds', *minekaori* 峰香 (みねかおり) 'scent of the peak', *izumi* 泉 (いずみ) 'spring, fountain' and *takachiho* 高千穂 (たかちほ) 'Takachiho' are favoured in the production of *kamairi cha*.

Cultivar names prefixed with 紅 *beni* 'scarlet' denote Japanese black tea cultivars, e.g. *benihikari* 紅光 (べにひかり) 'scarlet light', *benihomare* 紅誉 (べにほまれ) 'scarlet honour' and *benifūki* 紅富貴 (べにふうき) 'scarlet wealth and nobility'. Tea cultivar names prefixed with *oku* おく 'late crop, inner' are late, e.g. *okuyutaka* 奥豊 (おくゆたか) 'modest richness', whereas cultivar names

120 Naomi Mizuno and Namiko Ikeda. 2007. 'Tea plants (*Camellia sinensis*) in Japanese cold climate regions', *ICOS*, 3, PR-P-209.

suffixed with *wase* わせ 'early pick' are early varieties, e.g. *kondōwase* 近藤早生 (こんどうわせ) 'Kondō early picked tea'. There are over 40 minor tea cultivars in Japan which have been officially registered since 1953, e.g. *asatsuyu* 朝露 (あさつゆ) 'morning dew', *gokō* 後光 (ごこう) 'aureole', *okuyutaka* 奥豊 (おくゆたか) 'modest richness', etc.

Japanese tea breeders began selecting élite clones from amongst extant strains of Japanese tea plants in the 19th century. In 1932, the Japanese government promoted the cross breeding of existing cultivars. In 1908, Sugiyama Hikosaburo 杉山彦三郎 (1857–1941) had begun privately to develop the *yabukita* cultivar. This cultivar was registered in 1953 and suddenly gained popularity throughout Japan in the 1970s, gradually supplanting many orthodox tea cultivars in Shizuoka prefecture and ultimately all of Japan. The *yabukita* cultivar is highly adaptable and yields high-quality tea and is plucked several times from May to September. Today this one cultivar covers 80 % of the surface area of Japanese tea plantations. As opposed to tea plants grown from seedlings, such clonal cultivars exhibit synchronous bud break, which renders them suitable for machine harvesting.

Under the new mechanised regime which took over Japan in the 1970s, *yabukita* spread because of its superior quality and unparalleled yield. By the end of the 20th century, 90 % of Japanese tea plantations grew this one cultivar. Today over 92 % of tea cultivated in Japan is clonal tea. Clonal propagation, involving the vegetative reproduction of tea plants from leaf cuttings instead of the growing of new tea plants from seed, is employed to ensure greater uniformity and high yield. Yet the *yabukita* cultivar is highly susceptible to pests. A new cultivar called *nanmei* 南明 (なんめい), cultivated since 2012 and resistant to the mulberry scale *Pseudaulacaspis pentagona*, was developed through the use of DNA marker assisted selection. A new semi-fermented tea with a fresh green colour is being developed from the *benifūki* cultivar, and new foodstuffs are being developed from the cultivar Sun Rouge, which has a high anthocyanin content in the young shoots.[121]

Notwithstanding the meticulous registration of Japanese cultivars, DNA marker analysis shows that overall Japanese tea exhibits much less genetic diversity than tea plants in China. This finding is in consonance with the relatively recent, historically documented introduction of tea to Japan from China. A shared genetic marker between the Japanese land races with the tea cultivars around Ningpo and in Zhèjiāng suggest that Zhèjiāng was the area of origin for many Japanese cultivars.[122] Today, micro-array technology has rendered affordable full genotype scans enabling the detection of single nucleotide polymorphisms (SNPs). The germ plasm of tea cultivars is being meticulously mapped in order to conduct allele mining and artificial genomic selection.

Some current breeding experiments involving marker-assisted selection seek to reduplicate genetic resistance against the mulberry scale *Pseudaulacaspis pentagona*, the main insect capable of devastating tea crops in Japan.[123] In the past decades, new early budding cultivars have been developed in Shizuoka which show greater resistance to anthracnose and other diseases, such as *tsuyuhikari* 露光 (つゆひかり) 'dew light', *yamanoibuki* 山の息吹 (やまのいぶき) 'breath of the mountains', *sakimidori* 先緑 (さきみどり) 'early green', *kōshun* 香駿 (こうしゅん) 'scent prodigy' and *saemidori* 冴緑 or 冴翠 (さえみどり) 'clear green'. These are used increasingly in organic teas requiring less pesticides and fungicides. Different cultivars produce different tea and

121 Fumiya Taniguchi. 2013. 'Recent advances in tea breeding and the development of Japanese tea products from new cultivars', *ICOS*, 5, PR-S-4; Fumiya Taniguchi, Katsuyuki Yoshida, Hiroshi Yorozuya, Akiko Ogino, Testuji Saba and Atsushi Nesumi. 2013. 'The use of marker-assisted selection to develop a new tea cultivar *nanmei*, resistant to mulberry scale', *ICOS*, 5, PR-P-30.

122 Satoshi Yamaguchi and Liang Chen. 2010. 'The origin and spread of tea plants of Japan', *ICOS*, 4, PR-P-02.

123 Junichi Tanaka. 2012. 'Japanese tea breeding history and the future perspective', pp. 227–239 in Chen, Apostolides and Chen (op.cit.).

thrive under different conditions, generate different yields and have different free amino acid contents in their leaves. For example, *asatsuyu* 朝露 (あさつゆ) 'morning dew' requires fertiliser or a nitrogen-rich soil, whereas *asanoka* 朝香 (あさのか) 'morning fragrance' has enhanced nitrogen absorptive power and produces a high amino acid content without fertiliser.[124] To further sustainable agriculture, other such new cultivars are being bred which require low nitrogen input.[125]

The cultivar *benifūki* 紅富貴 (べにふうき) happens to be exceptionally rich in the anti-allergenic compound epigallocatechin-3-*O*-(3″-*O*-methyl) gallate, and a later harvest enhances the content of this methylated catechin and its anti-histaminic effects even further. Proponents of this cultivar believe that green tea made from this ostensibly black tea cultivar could be of use in the early treatment of seasonal allergic rhinitis.[126] Sometimes a cultivar is bred just to enhance the vibrancy of the greenness in the liquor of the green tea, such as the new cultivar *yumesuruga* 夢駿河 (ゆめするが), which is a hybrid of *okuhikari* 奥光 (おくひかり) and *yabukita* 薮北 (やぶきた).[127]

A newly bred green tea cultivar *saeakari* 冴明 (さえあかり) 'clear bright', first registered in July 2010, was bred at the Makurazaki 枕崎 tea research station of the National Institute of Vegetable and Tea Science in 1997 from seedlings crossed between the cultivar Z1 and the cultivar *saemidori*. The new cultivar buds somewhat early, and the first crop of the year is ready for plucking four to five days earlier than *yabukita*. This high yielding cultivar is resistant to both anthracnose and grey blight, and its proponents confidently proclaim that '*saeakari* is expected to take the place of *yabukita*'.[128] Another new anthracnose resistant cultivar is *minamisayaka* 南沙也香 (みなみさやか). A new tea cultivar bred at Makurazaki is *shuntarō* 俊太郎 (しゅんたろう), which like the cultivar *kuritawase* 栗田早生 (くりたわせ), is an extremely early cultivar but produces a higher yield. *Shuntarō* is resistant to anthracnose and grey blight and is likely to replace stands of *kuritawase* in warm regions like Tanegashima 種子島 in Kagoshima prefecture.[129]

Innovations and Nostalgic Retentions in Japanese Tea

Japan is the land of innovative tea research, with cutting-edge developments in the mechanical testing and assessment of tea characteristics

124 Tetsuji Saba, Atsushi Nesumi and Yoshiyuki Takeda. 2004. 'Cultivar differences in amino acids content in the xylem sap of tea', *ICOS*, 2: 308–310; Toyomasa Anan. 2004. 'Varietal differences in the growth and the chemicals constituents of tea plants grown under the condition of a low amount of nitrogenous fertiliser', *ICOS*, 2: 331–332.

125 Katsuyuki Yoshida. 2007. 'Development of tea breeding for low-input sustainable cultivation in Japan', *ICOS*, 3, PR-S-02.

126 Tsuyoshi Okamoto, Izumi Hayashi, Mari Maeda-Yamamoto and Yoshiyuki Takeda. 2007. 'A delayed plucking method enhanced yield and content rate of *O*-methylated catechin in *benifūki* tea cultivation', *ICOS*, 3, PR-P-205; Mari Maeda-Yamamoto, Kaori Ema, Yoshiko Tokuda, Manami Monobe, Hisako Hirono, Yuki Shinoda, Takao Fujisawa, Yoichi Sameshima, Hirofumi Tachibana and Shinichi Kuriyama. 2010. 'The efficacy of early treatment of seasonal allergic rhinitis with *benifūki* green tea containing *O*-methylated catechin and the absorption', *ICOS*, 4, HB-P-27; Mari Maeda-Yamamoto, Kaori Ema, Mamami Monobe, Yoshiko Tokuda and Hirofumi Tachibana. 2012. 'Epicatechin-3-*O*-(3″-*O*-methyl)-gallate content in various tea cultivars (*Camellia sinensis* L.) and its *in vitro* inhibitory effect on histamine release', *Journal of Agricultural and Food Chemistry*, 60 (9): 2165–2170.

127 Hikaru Sato, Hideyuki Katai, Yoriyuki Nakamura, Yoichi Aoshima and Yasutaka Suzuki. 2013. 'The cultivation of *yumesuruga* for green tea which has excellent green colour in both the manufactured tea and the brewed liquor', *ICOS*, 5, PR-P-27.

128 Katsuyuki Yoshida, Atsushi Nesumi, Junichi Tanaka, Fumiya Taniguchi, Akiko Ogino, Tetsuji Saba and Akiko Matsunaga. 2010. 'The breeding of a new green tea cultivar *saeakari* with resistance to anthracnose and grey blight', *ICOS*, 4, PR-P-03.

129 Atsushi Nesumi, Katsuyuki Yoshida, Junichi Tanaka, Fumiya Taniguchi and Akiko Ogino. 2010. 'The breeding of extremely early tea cultivar *shuntaro*', *ICOS*, 4, PR-P-06.

and quality employing the use of infrared spectroscopy, capillary electrophoresis and the solid phase micro-extraction of volatile components. Tea plucking is far more mechanised in Japan than in China, although Japanese tea experts have argued that for a higher quality of leaf tea either human beings or yet 'more intelligent robots' will be required.[130] There are even aspirations to develop robotic tea tasters equipped with built-in lipid-polymer membrane taste sensors and electronic nose trap tubes.

Yet many old tea traditions are retained locally. In the month of May in the moated village of Nakazoshi 中曽司 in northwestern Kashihara 橿原 in Nara 奈良 prefecture, tea is harvested that has been grown on the borders of fields and beside houses. The tea leaves are then milled into a powdered tea, served whisked with a pinch of salt and with *kiriko* きりこ rice crackers floating on top. Fifteen families in the village each still maintain their own old stone mill for the preparation of this tea.[131]

In 1987, a new type of tea was developed by Tsuchida Tōjirō 津志田藤二郎 and his Japanese colleagues when they exposed the drying tea leaves to an atmosphere of pure nitrogen, which is the principal component of natural air, rather than to air containing oxygen.[132] The scientific innovation of treating the tea leaves anaerobically enhanced the resulting amount in the tea end product of the naturally occurring amino acid and glutamic acid derivative known as γ-aminobutyric acid, abbreviated as GABA, as well as alanine. By contrast, common green tea is high in glutamic acid and aspartic acid but low in γ-aminobutyric acid. GABA is an inhibitory neurotransmitter present almost exclusively in the central nervous system of higher animals, where the substance mediates one third of the synapses in regions such as the cerebral cortex, hippocampus, thalamus, basal ganglia, cerebellum, hypothalamus and brain stem.[133]

In 2007, randomised dietary studies to date indicated that tea intake appeared to have no effect on blood pressure,[134] perhaps because the effects of caffeine were balanced by the effects of theanine and other compounds with similar activity contained in tea. The compound GABA likewise acts to lower blood pressure. The resultant teas containing 150 mg of GABA per 100 g of tea are called gabaron oolong and gabaron green tea.[135] Gabaron green tea has the same catechin content as normal green tea.[136] The salubrious effects on circulation, regularising hypertension and reducing anxiety have been documented in various studies, and there has consequently been a drive to popularise this variety of tea amongst school children.[137] In the noughties, GABA tea was successfully manufactured in Táiwān. Tea farmers in Táiwān combined the famous Formosan techniques of oolong tea production to yield a Taiwanese gabaron tea with a unique flavour.[138]

Tea bushes are regularly pruned to stimulate new vegetative growth, enhance bush hygiene,

130 Yu Han, Hongru Xiao, Guangming Qin, Zhiyu Song, Wenqin Ding and Song Mei. 2014. 'Developing situations of tea plucking machine', *Engineering*, 2014 (6): 268–273.

131 Akiko Ito, Yuka Ikarashi, Kiyoshi Yoshinaga and Takashige Terada. 2004. 'The folk ways of making and whisking hand-made powdered green tea in Nakazoshi town, Nara', *ICOS*, 2: 676–679.

132 Seiichiro Hagiri. 2001. 'Marketing, industry and appearance of gabaron tea', *ICOS*, 1 (IV): 139.

133 P. Brambilla, J. Perez, F. Barale, G. Schettini and J.C. Soares. 2003. 'GABAergic dysfunction in mood disorders', *Molecular Psychiatry*, 8: 721–737.

134 Dirk Taubert, Renate Roesen and Edgar Schömig. 2007. 'Effect of cocoa and tea intake on blood pressure: A meta-analysis', *Archives of Internal Medicine*, 167: 626–634.

135 Reiji Sekiguchi, Takashi Shibuya, Ikue Takeoka, Noriko Saito and Masashi Omori. 2001. 'Near infrared analysis for the determination of γ-aminobutyric acid in gabaron tea', *ICOS*, 1 (IV): 79–80.

136 Wang, Tsai, Lin and Ou (2004).

137 Lin Zhi and Masashi Omori. 2001. 'Effects of gabaron tea components on angiotensin I converting enzyme (ACE) activity in rats', *ICOS*, 1 (IV): 81–84.

138 Hsueh-Fang Wang, Yung-Sheng Tsai, Mu-Lien Lin and Andi Shau-mei Ou. 2004. 'Comparison of amino acids in Taiwan GABA tea with different variety, production, area and season', *ICOS*, 2: 267–268.

maintain the tree shape at a rational height and regulate the tea crop. More radical forms of pruning are called skiffing. In Shizuoka prefecture, for example, autumn skiffing may be carried out towards the end of October. Pruning is optimally conducted during the dormant period of the plant because the levels of carbohydrate reserves are then at their highest, and the plant is better able to withstand the ravages of this necessary evil. Before the days of mechanisation of many of the procedures in the preparation of tea, manual labourers and artisans were employed for plucking, manufacturing and then refining the tea.

The tea song genre once thrived in Japan amongst workers who would drive away some of the tedium of their work by singing these tea songs. Themes of the lyrics ranged from how to pluck tea, social, philosophical or historical themes, hometown pride, word play, the hardship of a labourer's life and the inevitable love song theme. Due to advances in the tea industry in Japan, the genre itself is threatened, but fortunately the music and lyrics are being recorded and studied.[139]

Chazuke 茶漬け is an interesting Japanese dish, reputedly very good for a hangover. It consists of a bowl of cold green tea into which rice and bits of sashimi or grilled fish are thrown. My own conjecture about how this dish originated is that on the morning after a convivial bacchanal with friends, the leftover rice and sushi was simply put into a bowl with the all the *sencha* that had become cold overnight. This idea occurred to me years ago in Japan when I first saw a very delicious *chazuke* unfolding before my own eyes as a breakfast repast under precisely these circumstances. *Chazuke* is more respectfully referred to as *o-chazuke* お茶漬け, and whether or not my own conjecture regarding the original circumstances under which the dish first arose are correct, eateries serving *o-chazuke* already began to appear in Japan toward the end of the 17th century.

Once tea had been distilled to attain its purest form in Japan, the use of such pure green tea as an ingredient in essence gave birth to modern tea cuisine for the first time. This Japanese innovation differs substantively from the culinary practices of the ancient tea homeland, where tea was originally a pickled comestible and later a hearty medicinal soup because the new gastronomy had arisen upon the basis of green tea as a pure and rarefied beverage. The invention of *chazuke* in Japan roughly a millennium after Lù Yǔ marked the moment at which tea had come full circle. Moreover, fine green tea is also used as *dashi* 出し (だし) or soup stock for savoury *soba* 蕎麦 (そば) and *udon* 饂飩 (うどん). If the stew is not heated too much, even fine *gyokuro* is sometimes employed as *dashi* in harmony with other subtle flavours.

The return of tea to the realm of gastronomy was also independently consummated in France in the 18th century. In addition to *chazuke* and *dashi*, many new dishes are being created by the practitioners of Japan's new tea cuisine.[140] Fresh tea leaves can be consumed too. During my visit to the renowned producer of exquisite *gyokuro*, Maejima Tōhei 前島東平 at Asahina 朝比奈 in Shizuoka prefecture, he brewed his own tender *gyokuro* for me. After one light steeping with only just a modicum of water at a suitably tepid temperature, the venerable tea master seasoned the vibrantly green leaves with a sprinkling of *katsuobushi* 鰹節 'dried bonito curls' and a bit of fine Japanese soy sauce, and we enjoyed an exquisite fresh *gyokuro* tea leaf salad.[141] In Chapter Ten, we

139 Shigehiro Kodomari, Itiji Morizono and Malcolm W. Adams. 2001. 'O-cha songs', *ICOS*, 1 (11): 78–82.

140 Toshimi A. Kayaki. 2011. *À l'heure du thé vert: Un art de vivre au Japon*. Tokyo: Éditions de Tokyo (pp. 57–80). Kayaki presents provides the recipes for three exquisite *chazuke* preparations, five modern tea dishes, five green tea beverages, four green tea cocktails and seven green tea pastries.

141 Delmas documented similarly being treated to a salad, but prepared with fresh tender *kabusecha* leaves that had likewise been subjected to a light steeping, when he visited the renowned *gyokuro* master in August 2010

shall return to the new French, Thai and Sri Lankan tea gastronomy.

A Non-Japanese Drink with a Japanese Name

Kombucha is a type of *kvas* квас 'kvass' made on the basis of sweetened black tea, developed in Russia at the beginning of the 20th century. Originally, this beverage was called *čai̯nyi̯ grib* чайный гриб 'tea fungus' or *čai̯nyi̯ kvas* чайный квас 'tea kvass'. Traditional Russian kvass is a lightly effervescent drink made from the fermentation of dark Russian rye bread or *čërnyi̯ xleb* чёрный хлеб 'black bread', usually dried to yield sliced blocks that are called *suxari* сухари.

This dried bread is put into water in a huge glass jar to ferment, with the mouth of the jar covered with a cloth tightly stretched across the opening. Whilst undergoing fermentation, the kvass may be flavoured with some berries, apples, raisins or birch sap. To ensure uniformity of the end product, *zakvaska* закваска 'starter culture' may be added at the beginning, but sometimes just the naturally occurring ambient organisms are relied upon. Kvass is available commercially made, but most kvass is still home-made or locally produced. The refreshing drink contains lots of vitamin B_1 and E and can be drunk on any occasion, or whilst resting after sweating in a Russian sauna or *parilka* парилка. The alcohol content in kvass fluctuates around 1%.

The idea arose at one point to make kvass on the basis of sweetened black tea. Various naturally occurring yeasts and bacteria are responsible for the fermentation, which, as with traditional kvass, takes place in huge glass jars at home, with the mouth covered with a cloth tightly stretched across the opening. This *čai̯nyi̯ kvas* чайный квас 'tea kvass' tends to be more heterogeneous in quality because the natural organisms that happen to be present will often differ, and the particular composition of the prevailing microorganismal community may yield kombucha of either better or inferior quality. Organisms identified in kombucha include *Medusomyces gisevi*, various species of the genus *Saccharomyces* and other yeast species. The bacterium *Gluconacetobacter xylini*, also known as *Acetobacter xylinum*, is one of the bacterial species usually involved.

The English term *kombucha* derives originally from a misidentification with *konbucha* 昆布茶 (こんぶちゃ) 'kelp tea', which is an unfermented Japanese beverage prepared by pouring hot water over finely powdered dried kelp. To enrich the inherently salty taste, sometimes *gyokuro* is blended into the drink. Alternatively, this liquid can be used as a stock, and a bit of dried plum flesh can be added to yield another type of stock used in cooking.

What is called *kombucha* in the West is therefore not at all the same thing as what is called *konbucha* 昆布茶 (こんぶちゃ) in Japan. The drink that in English has come to be known as kombucha is referred to in Japanese by the term *kōcha kinoko* 紅茶キノコ 'black tea fungus'. In Japan, this beverage became a health food fad in the 1950s and 1960s, which spread in small circles chiefly by word of mouth. In the mid 1970s, the fad peaked with many enthusiasts making kombucha at home. Unusual health claims were touted, but studies revealed that some batches of kombucha were wholesome and contained only harmless yeasts and symbiotic bacteria, whereas some other batches of kombucha were found to contain pathogenic organisms.

In America, kombucha is sold in various flavours. In the commercial production of kombucha, a uniform starter culture is presumably used, and today kombucha is sometimes also made on the basis of green tea. None of the fantastic health claims made for kombucha have been verified to date. However, good kombucha, like good traditional Russian kvass, makes a tasty and refreshing drink. A salient difference is that kombucha is expensively sold in health food stores, whereas kvass has traditionally always been the cheapest

(François-Xavier Delmas. 2011. *Chercheur de Thé*. Paris: Le Palais des Thés, pp. 68–69).

FIGURE 3.51 Fresh *gyokuro* salad with a sprinkling of dried bonito curls and fine Japanese soy sauce, being prepared by Maejima Tōhei 前島東平

beverage you could buy in Russia. Moreover, traditional kvass tastes better than much kombucha. I have long lamented the unavailability of good chilled kvass at saunas outside of Russia, though kvass is now reportedly available in Chinese supermarkets.

Tea Reaches the Korean Peninsula

According to a legend, an Indian princess from Ayodhyā whose Korean name is recorded as Hŏ Hwang'ok (許黄玉 / 허황옥)[142] brought tea seeds with her from India in 48 AD, when she came to Korea to marry king Suro (首露 / 수로), mythical founder of the Kaya or Karak kingdom (伽耶 / 가야 or 駕洛 / 가락).[143] This legend is first attested

142 Korean names appear in the traditional McCune-Reischauer romanisation in use since 1937. Alternative transcriptions in the Revised Romanisation introduced by the Korean Ministry of Culture and Tourism in 2000 are provided in the footnotes. In the new transcription, the name Hŏ Hwang'ok would be Heo Hwang-ok. In 1954, Samuel Elmo Martin of Yale University developed an alternative transliteration of Korean orthography in Roman script, which some linguists employ instead of the more well-established McCune-Reischauer romanisation.

143 Yang-Seok (Fred) Yoo. 2007. *The Book of Korean Tea: A Guide to the History, Culture and Philosophy of Korean Tea and the Tea Ceremony*. Seoul: Myung Won Cultural Foundation (pp. 22, 51–53). Kaya, Karak and Shilla in Revised Romanisation are Gaya, Garak and Silla respectively.

FIGURE 3.52
Koryŏ dynasty ewer with bamboo sprout motif, 12th century, South Chŏlla
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

in a 13th century chronicle. In reality, the cultivation of the subtropical *Camellia sinensis* was introduced to the harsher climate of the Korean peninsula only much later. The first historical attestation of tea as a commodity in Korea dates from 661 AD, when tea was mentioned in the list of offerings required to pay tribute to the long deceased king Suro in an ancestral rite performed at the behest of king Munmu (文武 / 문무), ruler of Shilla (新羅 / 신라).[144] As in China, the first mention of tea was as a medicinal herb associated with an aristocratic ritual.

The tea plant was first introduced to Korea in 828 by the envoy Kim Taeryŏm (金大廉 / 김대렴), and at the behest of Hŭngdŏk (興德 / 흥덕), 42nd monarch of the Shilla dynasty, the tea seeds were planted on Mt. Chiri (智異 / 지리), where the new plants were cultivated by Buddhist monks at the Ssanggye temple (雙磎 / 쌍계).[145] In 840, meditation master Chinkam Sŏnsa (真鑑禪師 / 진감선사) transplanted tea from the Ssanggye temple to the Okch'ŏn temple (玉泉寺 / 옥천사), and subsequently tea also came to be cultivated at other monasteries. Findings of a morphometric palynological study have been interpreted as supporting the tradition that the first tea seeds brought to Mount Chiri originated from 天台 Mount Tiāntái in Zhèjiāng province.[146]

Two subsequent notable Korean tea scholars, or *ta-in* (茶人 / 다인), were Ch'oe Ch'iwŏn (崔致遠

144 An Sonjae (brother Anthony of Taizé) and Hong Kyeong-Hee (Hong Kyŏnghŭi). 2007. *The Korean Way of Tea: An Introductory Guide*. Seoul: Seoul Selection (pp. 90–91).

145 Byeong-Choon Keong and Young-Goo Park. 2012. 'Tea plant (*Camellia sinensis*) breeding in Korea', pp. 263–288 in Chen, Apostolides and Chen (op.cit., p. 264); Kim Taeryŏm, Hŭngdŏk, Chiri and Ssanggye in Revised Romanisation are written as Gim Daeryeom, Heungdeok, Jiri and Ssanggye respectively.

146 Eunkyung Lee, Yaoping Luo and Qiqing Tong. 2001.

FIGURE 3.53 Koryŏ dynasty celadon rectangular head rest
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

/ 최치원, born 857) and Ch'ungdam (忠湛 / 충담, 869–940). During the Koryŏ dynasty (918–1392), tea as a beverage was popularised in Korea by Zen monks, who used the infusion of tea as a stimulant to stay awake whilst meditating. During the Koryŏ period, Buddhism spread and so did the popularity of tea drinking as well as the use of fine tea vessels in celadon. There was even a special tea room or *tapang* (다방 or 茶房) at the royal court, and the Korean scholar I Kyubo (李奎報 / 이규보, 1168–1241) wrote his famous 茶詩 *Tea Verses*.[147]

The Korean tea ceremony, or *tarye* (茶禮 / 다례) 'tea custom', is mentioned in 1474 in the *Kukcho Oryeŭi* 'Five Rites of State' (國朝五禮儀 / 국조오례의). Ironically, it is during the Chosŏn dynasty (1392–1897) that Confucianism prevailed and the popularity of drinking tea in Korea waned. Korean tea culture dwindled to the point of near total extinction. Tea drinking survived in Buddhist monasteries and at the royal court, where servants designated as *sangda* (尙茶 / 상다) served tea to the king, and *tasaek* (茶色 / 다색) served tea to senior government officials.[148] Tea was also a pursuit amongst scholars and literati of the *yangban* (兩班 / 양반) gentry, but it was viewed as unseemly for women to be involved in tea and tea poetry, except as menial female tea officiants called *tamo* (茶母 / 다모). These *tamo* conducted tea service at court, in government offices and at private gatherings. Over time, the status of the *tamo* fell, and they came also to be referred to as *tagi* (茶妓 / 다기) 'tea prostitute, teapot', *tahŭi* (茶姬 / 다희) 'tea concubine' or *tabi* (茶婢 / 다비) 'tea slave'. Outside of the cities in rural areas, the word *tamo* simply

'Study on the comparative morphology of pollen between the Chinese Mt. Tiāntái and the Korean Mt. Jiri tea plants', *ICOS*, 1 (11): 33–36.

147 Yoo (2007: 60, 62, 72); Chinkam Sŏnsa, Okch'ŏnsa, tapang, Ch'oe Ch'i-wŏn, Ch'ungdam and I Kyubo in Revised Romanisation are Jingam Seonsa, Okcheonsa, dabang, Choe Chiwon, Cheongdam and I Gyubo respectively.

148 My thanks go to Seunghun Julio Lee (李勝勳 / 이승훈) for these two Korean terms.

became a word for 'prostitute', and in the later Chosŏn period male whores were likewise referred to as *tamo*.[149]

During the Chosŏn, the Korean preference in porcelain switched from celadon enduringly to white, and the tea drunk in Korea was mainly imported from China.[150] In the 19th century, several prominent scholars were influential in striving to reverse this trend. Both Chŏng Yakyong (丁若鏞 / 정약용, 1762–1836) and Kim Chŭnghŭi (金正喜 / 김정희, 1786–1856) are remembered as great *ta-in* (茶人 / 다인) 'tea scholars'. The first major Korean texts on tea were the *Tashinjŏn* 茶神傳 'Chronicle of the Spirit of Tea', written in 1830, and the *Tongdasong* 東茶頌 'Encomium on Korean Tea', written in 1837. Both texts were written by the Zen monk Ch'o-ŭi (艸衣 / 초의, 1786–1866), who was inspired directly by Míng dynasty Chinese sources. Ch'o-ŭi, whose original name before ordination as a monk had been Chang Ŭisun (張意恂 / 장의순), also popularised the tea ceremony in Korea.[151]

In 1969, steps were taken to revitalise the Korean industry. Tea plantations were established in the southern provinces of South Kyŏngsang, South Chŏlla and on Cheju Island with imported Japanese *yabukita* cultivars. Today tea is grown using Korean 'wild' cultivars as well as the *yabukita* cultivar developed in Shizuoka. In the face of the spread of new cultivars replacing the precious heirloom tea varieties of the Korean peninsula, the wild Korean tea cultivars have become of great interest. This interest is shared both by geneticists and planters as well as by tea connoisseurs.[152] In the 1970s until her death, under her assumed name of Myŏng Wŏn (茗園 / 명원) 'tea garden', Kim

149 Nishimura et al. (2008: 222).

150 Based on observations made by Dutch seamen stranded in Korea from 1653 to 1666, Nicolaes Witsen recorded that 'de Thee werd hier veel uit *Sina* overgebragt' (1705: 47). In August 1653, during a heavy storm the Dutch yacht *Sperwer* 'sparrowhawk' ran aground against the rocks off of the island of Cheju and was smashed to pieces. Out of a crew of 64 men, only 36 seamen were washed ashore. After thirteen years in Korea, eight of the survivors escaped to Nagasaki on a boat that they had managed to purchase in 1666, and seven were later freed from Korea two years later, in 1668. Hendrick Hamel and his seven fellow escapees were returned from Nagasaki to Batavia, whence they sailed back home on the *Vrijheid*. They disembarked in Holland in July 1668, after which Hamel's diary was promptly published, containing an account of their adventures and a description of the kingdom of Korea. Two of Hamel's fellow escapees, Mattheus Eibocken and Benedictus Klerck, served as sources to Nicolaes Witsen for the portion about Korea in the latter's famous *Noord en Oost Tartarye* (pp. 42–63). After Witsen, Philipp Franz von Siebold (1832) provided the next major Western source of information on Korea (Hendrick Hamel. 1668. *Journael van de ongeluckige voyagie van 't jacht de Sperwer van Batavia gedeftineert na Tayowan in 't jaar 1653, en van daar op Japan; hoe 't felve Jacht door ftorm op't Quel-Paerts Eylant is gheftrant, ende van 64. personen maar 36. behouden aan't voornoemde Eylant by de Wilden zijn gelant, Alsmede een pertinente Befchryvinge der Landen, Provintien, Steden ende Forten leggende in't Coninghrijck Coeree.* Rotterdam: Johannes Stichter; Hendrick Hamel. 1668. *'t Oprechte Journael, Van de ongeluckige Reyfe van't Jacht de Sperwer, varende van Batavia na Tyowan en Fermofa, in 't Jaer 1653. en van daer na Japan, daer Schipper op was Reynier Egbertfz. van Amfterdam.* 't Amsterdam: Gillis Joosten Saagman; Nicolaes Witsen. 1705. *Noord en Oost Tartarye, ofte Bondig Ontwerp van eenige dier Landen en Volken, welke voormaels bekent zijn geweeft, beneffens verfcheide tot noch toe onbekende, en meeft nooit voorheen befchreve Tarterfche en Nabuurige Geweften, Landftreeken, Steden, Rivieren, en Plaetzen, in de Noorder en Oostelykste Gedeelten van Asia en Europa* (2 volumes). Amsterdam: François Halma; Vibeke Roeper and Boudewijn Walraven, eds. 2003. *Hamel's World: A Dutch-Korean Encounter in the Seventeenth Century*. Amsterdam: Sun Publishers; Sung Hee Choi, Young Gul Kim and Keun Hyung Park. 2001. 'Tea culture and the use of tea in Korea', *ICOS*, 1 (IV): 34–36). Koryŏ, tarye, Kukcho Oryeŭi and Chosŏn in Revised Romanisation are Goryeo, darye; Gukjo Oryeui and Joseon respectively.

151 Yoo (2007: 76, 78–80); An Sonjae (brother Anthony of Taizé), Hong Keong-Hee (Hong Kyŏnghŭi) and Steven D. Owyoung. 2010. *Korean Tea Classics*. Seoul: Seoul Selection (pp. 59–64); Sangda, tasaek, yangban, tamo, tagi, tahŭi, tabi, Chŏng Yakyong, Kim Chŏnghŭi, Tashinjŏn, Tongdasong, Ch'o-ŭi and Chang Ŭisun in Revised Romanisation are sangda, dasaek, yangban, damo, dagi, dahui, dabi, Jeong Yakyong, Gim Jeonghui, Dasinjeon, Dongdason, Cho-ui and Jang Uisun respectively.

152 Choi, Kim and Park (2001); Kyŏngsang, Chŏlla and Cheju in Revised Romanisation are Gyeongsang, Jeolla and Jeju respectively.

FIGURE 3.54
Chosŏn dynasty wine flask from the 16th century
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

Mihŭi (金美熙 / 김미희, 1920–1981) promoted the revival of Korean tea culture, and she hosted the first conference on Korean tea culture in 1979. In recent years, the tea ceremony has undergone a revival in Korea.[153]

The Renaissance of Korean Tea

Green tea is referred to as *nokch'a* 녹차 in Korean. One of the famous Korean green teas is known as *chaksŏl* (雀舌 / 작설) 'sparrow's tongue', giving expression to a metaphor for the shape of the early tea bud. The various pickings or harvests are analogous to those in China or Japan and are defined with relation to a few salient solar terms in the system of 24 solar terms. The rare first flush called *uchŏn* 우전 is soft in taste and is plucked as soon as the tea shoots up as the snow melts in Korea. The next pluck called *sechak* 세작 'thin sparrow's tongue' consists of the thin, not fully opened leaves, picked between the solar terms of Rainfall (*kogu* 곡우), around the 20th of April, and Enter Summer (*ip'a* 입하), around the 5th of May. The first syllable 세 *se* denotes 'thin', and *chak* is short for *chaksŏl* 작설 'sparrow's tongue'.

The next pluck called *chungjak* 중작 'middle yield' are the harder, more astringent leaves harvested in mid May. The last flush *taejak* 대작 'large yield' is harvested soon after *chungjak*, in late May. In the terms *chungjak* and *taejak*, *chung* 중 denotes leaves that are already 'medium' in size, and 대 *tae* means 'big'. In June and July, the pluck called *yŏpch'a* 엽차 'coarse tea' is the harvest of full grown summer leaves and is regarded as yielding tea that is lower in quality.[154]

Traditional Korean tea cultivars tend to have leaves that are relatively greater in length and narrower in width than the majority of Japanese cul-

153 Yoo (2007: 181); Kim Mihŭi and Myŏng Wŏn in Revised Romanisation are Gim Mihui and Myeong Won respectively.

154 The terms nokch'a, chaksŏl, tŏkkŭm, chŭngje, uchŏn, sechak, kogu, ip'a, chungjak, taejak and yŏpch'a in Revised Romanisation are nokcha, jakseol, deokkeum, jeungje, ujeon, sejak, gogu, ipha, jungjak, daejak and yeopcha respectively.

FIGURE 3.55
Bevelled white jar of the early 18th century, fired in kilns at Kwangju
PHOTO BY MUDA TOMOHIRO 六田知弘, ŌSAKA MUSEUM OF ORIENTAL CERAMICS

tivars, and the Korean pistils are longer than the stamens. There have been those who claim that the route of transmission of tea from China to Japan passed through Korea, since the tea plants found on Tsushima island between the Korean peninsula and Kyūshū have been claimed by some to show Korean characteristics. Like the *assamica* variety of *Camellia sinensis*, the 'wild' Korean *sinensis* cultivars show better overall natural resistance to tea anthracnose *Colletotrichum theaesinensis* and to grey blight *Pestalotiopsis longiseta* than the *sinensis* cultivars in Japan. Japanese cultivars show a great heterogeneity in their degrees of resistance, and especially the popular *yabukita* variety is susceptible.[155]

Pistil morphology and DNA studies of the marker for phenylalanine ammonia-lyase support the view that the first Japanese tea trees came from the Hángzhōu area in the early 9th century, and that tea was introduced into Korea independently in the same period. The Korean tea tree populations are mainly associated with Zen monasteries and appear to have undergone little change from the time that tea was introduced from China, although a strain of tea tree was also later brought over to Korea from Japan. By contrast, there was a more intense exchange of tea germ plasm as well as of monks between Korea and China after the initial introduction of tea.[156]

Varietal differences have been studied intensely and many hybrids have been developed in the course of centuries. The old 'wild' stands of Korean tea trees and monastic gardens showed great morphological diversity in leaf size and were devoid of

155 Yoshiyuki Takeda. 2001. 'Evaluation and genetic analysis of the resistance to tea grey blight in tea genetic resources in Japan', *ICOS*, 1 (II): 140–143.

156 Satoru Matsumoto. 2001. 'Analysis of the differentiation of Japanese green tea cultivars using DNA markers', *ICOS*, 1 (JS): J13–J16; Satoshi Yamaguchi. 2001. 'Summarised remarks on the origin of Japanese tea by the genetic resources study in Eastern Asia and Japan', *ICOS*, 1 (JS): J17–J20.

the newly developed varieties which had become prevalent in Japan.[157] In recent decades, however, the newer *yabukita* cultivar dominant in Japan has also been introduced and become widespread in Korea.[158] Two genes have been identified in the resistant cultivars traditionally cultivated in Korea, dubbed Pl_1 and Pl_2, which confer resistance against grey blight. Susceptibility to tea anthracnose *Colletotrichum theaesinensis* increases due to the inherent injury inflicted by the very process of picking tea itself. Susceptibility appears to increase markedly after the third picking, but the extent of anthracnose after the second picking can help a planter to decide whether the application of a fungicide is necessary.[159]

In taste and aroma, the temple teas made from Korean 'wild' tea trees preserved in temple compounds and adjacent woods exhibit a distinctive bouquet of fruity and flowery fragrances. Both green and semi-fermented teas are made by hand at a number of Korean temples. Both the parching (*tŏkkŭm* 덖음) and steaming (*chŭngje* 증제) methods are still used to arrest the oxidation of the goodness in the tea leaves. Whilst the aromatic compounds 3-methylbutanal, 2-methylbutanal, trans-2-hexenal, phenylacetaldehyde, 2-phenylethanol, β-ionone, nerolidol are found in most varieties of tea, the proportions and intensities measured in the hand-made semi-fermented teas of the Pŏmŏ temple (梵魚寺 / 범어사) were found to have a 'favourable', 'sweet' and 'floral' aroma, whereas teas from the temple gardens at Yŏngpong Tawŏn (영봉다원) and Naewŏn temple (내원사), both famous tea gardens since the Koryŏ period, were described as exuding a 'sweet chocolate' and 'lilac aroma'.[160]

In the Republic of Korea, 3,692 hectares of land are under tea cultivation with over 5,244 tea planters. The main growing areas are located in South Chŏlla (全羅南 / 전라남) province, which produces just over 53% of Korea's tea and where tea is mainly in the counties of Posŏng (寶城 / 보성), Hadong (河東 / 하동) and Kangjin (康津 / 강진). The second most important province is South Kyŏngsang (慶尙南 / 경상남), which accounts for just over 43% of the country's tea output. Minor growing areas include Cheju (濟州 / 제주) Island, just south of the Korean peninsula, and North Chŏlla (全羅北 / 전라북) province, and just a handful of tea plantations are found in the provinces of Kyŏnggi (京畿 / 경기) and South Ch'ungch'ŏng (忠淸南 / 충청남).

From 1960 to 1992, tea production rose from 50 to around 500 tonnes. In the following five years, output tripled, reaching 1,500 tonnes by 1998. From 2008, tea production in Korea underwent another growth spurt so that annual output now just exceeds 4,000 tonnes, whilst the annual per capita consumption of tea in Korea is just 104 grammes.[161] Most Korean tea is green tea, although today some Korean tea producers also manufacture black tea. Many of the green teas grown on the Korean peninsula and on Cheju Island today are wonderful and exquisite.

In 1982, the late leader of the Democratic People's Republic of Korea, Kim Il-sŏng 김일성, decreed that North Korea should produce its own tea. Tea is produced in Kangryŏng (康翎 / 강령) county in South Hwanghae (黃海南 / 황해남) province on the west coast, just north of the disputed line demarcating the maritime border between Democratic People's Republic of Korea

157 Park Young-Goo and Lim Changsook. 2004. 'Genetic variation of tea populations in Korea', *ICOS*, 2: 222–223.

158 Namiko Ikeda and Young-goo Park. 2001. 'Morphological and physiological characteristics of Korean wild tea populations', *ICOS*, 1 (I): 170–173.

159 Akihito Ozawa and Takuya Nishijima. 2001. 'Tolerable injury level and control threshold of the anthracnose *Colletotrichium theaesinensis* Miyake et al., on the tea crop', *ICOS*, 1 (II): 217–220.

160 Sung Hee Choi. 2001. 'Characterisation of the flavour of tea made from the tea found at some temples in Korea', *ICOS*, 1 (IV): 37–40.

161 Hong-Jae Kim, Ki-Ho Shin and Chang-Yong Yoon. 2007. 'Green tea production and marketing in Korea', *ICOS*, 3, JS-02; Pŏmŏ, Naewŏn, Yŏngpong Tawŏn, Chŏlla, Posŏng, Kangjin, Kyŏngsang, Kyŏnggi and Ch'ungch'ŏng in Revised Romanisation are Beomeo, Naewon, Yeongbong Dawon, Jeolla, Boseong, Gangjin, Gyeongsang, Gyeonggi and Chungcheong respectively.

to the north and the Republic of Korea to the south. Kangryŏng county lies on the Yellow Sea and is almost completely surrounded by the waters of the Haeju (海州市 / 해주시) Bay on the east and the West Korean Bay (西朝鮮灣 / 서조선만) on the south and west. The convoluted coastline of this hilly county features numerous inlets and coves, and the green and black tea produced here is reportedly quite good.[162]

162 John Bickel. 2016. 'Mission Impossible: Reviewing teas from North Korea', 29 March 2016 ⟨http://www.tching.com/2016/03/mission-impossible-reviewing-teas-from-north-korea/⟩.

CHAPTER 4

East Meets West: the Intrepid Portuguese

Getting into Hot Water

The first Portuguese seamen made landfall in Japan in 1542. In 1546, the merchant Jorge Álvares spent several months in Kagoshima 鹿児島. A year later, in 1547, just two years before Francis Xavier and the Jesuit missionaries arrived in Japan, Álvares wrote the first surviving garbled reference to tea by a European. From his account, written in Spanish, it is clear that the Portuguese merchant did not exactly know what tea was.

> … beben Orroca que hazen de aRoz y otro breuage q̃ todos generalmente beuen, grandes y pequeños … en el verano agua de febada y en el inuierno agua de vnas yeruas y no alcanfe afaber q̃ yeruas eran, no beuen ningun agua fria ni en inuierno ni en verano.[1]

> … they drink arrack which they make from rice, and another beverage which everybody generally drinks, young and old … in the summer barley water and in the winter an infusion of certain herbs, and I never managed to find out what herbs they were. They do not drink any cold water either in the winter or in the summer.

The reference to 'barley water' represents the first ever mention of Japanese barley tea *mugicha* 麦茶 by a European traveller.

In his writings on India, St. Francis Xavier devoted considerable energy to taking confession from converts and encouraging them to reveal 'the foul lusts with which they have stained themselves'. In Japan, the priest likewise showed a spellbound preoccupation with particular topics, such as 'their universal practice of sodomy … the chief vice of the Japanese nation of that day' and 'the unnatural lusts so common in Japan', for which he professed outspoken moral indignation.[2] However, Xavier notably indulged his curiosity with regard to some other Japanese customs with far less tenacity and perseverance. In his contribution to a volume on all things Indian and Japanese, compiled in 1549 at the behest of the governor of India, Garcia da Sá (*obtinebat* 1548–1549), Xavier recounted that the Japanese drank:

> … no imverno aguoa de hũas ervas que não alcamçey saber que ervas erão.[3]

> … in the winter the water of certain herbs about which I did not manage to ascertain what herbs they were.

Yet inquiries undertaken by some of Xavier's more persistent confrères yielded more informative reports.

1 Jeronymo Pinheiro de Almeida da Camara Manoel. 1894. *Missões dos jesuitas no Oriente nos séculos XVI e XVII: trabalho destinado à X sessão do Congresso Internacional dos Orientalistas*. Lisboa: Imprensa Nacional (p. 115).

2 George Schurhammer. 1928. *St. Francis Xavier, the Apostle of India and Japan, written from authentic sources*. St. Louis, Missouri: Bartholomäus Herder Book Company (pp. 220, 222); Henry James Coleridge. 1872. *The Life and Letters of St. Francis Xavier* (two volumes). London: Burns and Oates (Vol. II, pp. 116, 320); George Schurhammer and Joseph Wicki, eds. 1944, 1945. *Epistolae S. Francisci Xavierii aliaque eius scripta: Nova editio ex integro refecta textibus, introductionibus, notis, appendicibus aucta ediderunt Georgius Schurhammer et Iosephus Wicki* (two volumes). Roma: Monumenta Historica Societatis Iesu; São Francisco Xavier. 2006. *Obras completas* (two volumes). Braga: Secretariado Nacional do Apostolado da Oração.

3 Adelino de Almeida Calado, ed. 1957. *Livro que trata das cousas da India e do Japão: Edição crítica do Códice quinhentista 5/381 da Biblioteca Municipal de Elvas*. Coimbra: Universidad de Coimbra (p. 105).

The Jesuits maintained a prolific correspondence in which they reported their experiences and observations about countries of the Indies and the Far East.[4] In two letters written from Japan, Luís d'Almeida first described the practice of drinking powdered green tea or *matcha* 抹茶, but what most impressed many in the West was the report that people in Japan drank hot water. On the 14th of October 1564, d'Almeida, writing in Portuguese, reported that the Japanese would put …

> … pos defta erua muida em hũa porcelana, & desfeitos com agoa muito quente os beberẽ.[5]

> … the powder of this finely ground herb in a porcelain vessel and then mix it up with the very hot water and then drink it.

Just over a year later, in November 1565, d'Almeida wrote in Latin:

> Inde calenti admodum aqua dilutum ebibunt.[6]

> They drink this hot water in a much diluted form.

Luís Fróis sent a similar report to his Jesuit confrères in China and India.[7] In his letter of the 20th of February 1565,[8] written from Miyako 都, as Kyōto 京都 was known at the time, Fróis writes:

> Por inuerno & veraõ bebem fempre agoa quête, quanto a podem foffrer.[9]

> In winter and summer they always drink hot water, as hot as they can bear it.

In or before the year 1580,[10] Alexandro Valignano, the head of the Jesuits in the East, wrote that Japanese ways were so contrary to European customs that their ways were nearly beyond imagination:

> Tiene también otros ritos y coftumbres tan diferentes de todas las otras naciones, que parefce eftudiaron de propósito cómo no se conformar con nenguna gente. No fe puede ymaginar lo que acerca defto pafa; porque realmente fe puede dezir que Japón es un mundo al revés de come corre en Europa; porque es en todo tan diferente y contrario, que quafi en ninguna cofa se conforman con nofotros …[11]

> They also have other rites and customs so different from all other nations, that it appears as if they have made a conscious effort not to be like any other people. It is hard to say how this could have come about, for truly it can be said that Japan is a world opposite to the way that affairs are conducted in Europe, since all their ways are so different and opposite that in almost nothing do they conform to our own …

On the drinking of tea, Valignano wrote:

4 A two-volume compendium of this correspondence was published at Évora in 1598 by archbishop Theotonio de Bragança. An integral *fac-símile* was published in 1997: Garcia, José Manuel, ed., 1997. *Cartas que os padres e Irmãos da Companhia de Iefus efcreuerão dos Reynos de Iapão & China aos da mefma Companhia da India, & Europa, des do anno de 1549. atè o de 1580.* (*Edição fac-similada da edição de Évora, 1598*) (two volumes). Maia: Castoliva Editora.

5 Garcia, ed. (1997, 1° tomo, f. 163).

6 Giovanni Pietro Maffei. 1588. *Ioannis Petri Maffeii Bergomatis e Societate Iesv Historiarvm indicarvm libri XVI. Selectarvm item ex India epistolarum eodem interprete libri IV. Accessit Ignatii Loiolae vita postremo recognita. Et in opera singula copiosus index*. Florentiae: Apvd Philippvm Ivnctam (pp. 424–425).

7 Garcia, ed. (1997, 1° tomo, f. 172): 'De hũa que o padre Luis Frões efcreueo da cidade do Miáco aos padres, & irmãos da Companhia de Iefu, da China, & da India 20. de Feuereiro de 1565'.

8 i.e. according to the Julian calendar then in use. In our tale of tea, dates before 1582 are cited as in the original sources and are not converted into the Gregorian calendar.

9 Garcia, ed. (1997, 1° tomo, f. 172v).

10 Josef Franz Wicki, ed. 1944. *Alessandro Valignano S.I., Historia del Principio y Progresso de la Compañía de Jesús en las Indias Orientales (1542–1564)*. Rome: Institutum Historicum (Vol. 1, p. 86).

11 Wicki (1944, Texte, Cap. 18: 142).

FIGURE 4.1
Alexandro Valignano (1539–1606), who organised the first Japanese embassy to Europe in 1581, here depicted as he appeared in the year 1600 in an etching, the caption of which reads 'P. ALEXANDER VALIGNANVS SOC: IESV GENERALIS INDIARVM VISITATOR, ALTER À XAVERIO ORIENTIS APOSTOLVS. *An Dni.* M.D.C.'

> al cabo de ſu comer ſiempre beven agua caliente, invierno y verano, y tan caliente, que no ſe puede paſar ſino a tragos[12]
>
> After meals they always drink hot water, both in summer and in winter, and so hot that it can only be drunk in sips

Early reports such as the letters by Alvares, Fróis and Valignano created a stir in Europe, where hot beverages such as tea, coffee and cacao were still quite unknown. The word spread that the Japanese drank hot water, and the widespread curiosity that such reports aroused can be seen from the reaction of the Habsburg king Philip II upon receiving the first Japanese embassy to Spain in 1584.[13]

This first Japanese embassy[14] to Portugal, Spain and pope Gregory XIII in Rome had been con-

12 Wicki (1944, Texte, Cap. 18: 146).

13 Guido Gualtieri. 1586. *Relationi della Venvta degli Ambasciatori Giaponesi a Roma fino alla partita di Lisbona*. Roma: Franceſco Zannetti (p. 10: '… nel fine del mangiare coſi l'eſtate, come l'inuerno, beono vn buon bichiero d'acqua tanto calda, che non fatica, & non altrimente che à poco à poco ſipuo inghiottire'); Eduardo de Sande. 1590. *De Missione Legatorvm Iaponenſium ad Romanam curiam, rebuſq; in Europa, ac toto itinere animaduerſis Dialogvs*. Macau 'In Macaenſi portu Sinici regni': in domo Societatis IESV; cf. 1593. *Cartas do Iapam nas qvaes se trata da chegada a quelles partes dos fidalgos Iapões que vierão, da muita Chriſtandade que ſe fez no tempo da perſeguição do tyrano, das guerras que ouue, & de como Quambacudono ſe acabou de fazer ſenhor abſoluto dos 66. Reynos que ha no Iapão, & de outras couſas tocantes às partes da India, & au grão Mogor*. Liſboa: Em caſa de Simão Lopez.

14 In the article 'The tale of tea', which appeared in *The Magazine* (January 2014, issue 3, pp. 246–257), editorial intervention changed the author's formulation 'when the first embassy from Japan to the West arrived in Europe on the 14th of November 1584' into the factually incorrect 'when the first Japanese embassy in the West opened in Europe on November 14th, 1584'. Whereas the original formulation used *embassy* in its historical sense of a deputation or mission sent from a foreign state, the editor's rewording anachronistically suggested the existence in 16th century Spain of a building

FIGURE 4.2
The signature of Alexandro Valignano

ceived by the Italian Jesuit Alexandro Valignano and organised by him in December 1581 in collaboration with *daimyō* Ōtomo Yoshishige 大友義鎮 (1530–1587), also known as Ōtomo Sōrin 大友宗麟 and known to the Portuguese by the name Francisco or Francesco, and *daimyō* Ōmura Sumitada 大村純忠 (1533–1587), known to the Portuguese by the name Bartholomeu. The Japanese emissaries were young lads who had been converted to Christianity by the Jesuits. The leader of the embassy was Itō Sukemasu 伊東祐益, baptised Mancio マンショ and aged 12, envoy and nephew of Ōtomo Yoshishige, whilst Chijiwa Seizaemon 千々石清左衛門, baptised Miguel ミゲル and aged 14, served as the emissary of both Ōmura Sumitada and the nobleman Arima Harunobu 有馬晴信 (1567–1612), who was known to the Portuguese by the name Protasio. The two pupils Nakaura Julião 中浦ジュリアン, aged 12, and Hara Martinho 原マルチノ, aged 13, came as representatives of the Jesuit school in Kyūshū.

The embassy embarked at Nagasaki on the 20th of February 1582 and first sailed via Macao, Malacca and Cochin to Goa, and thence via St. Helena to the mouth of the Tagus. The emissaries were two and a half years older when they disembarked in Lisbon on the 10th of August 1584 than when they had embarked in Japan. When they finally returned to Nagasaki in July 1590, the Japanese noblemen were more than eight years older than when they had left Japan. In view of the time involved in such a journey, Valignano's decision to select young lads as emissaries was a prudent choice. When the young noblemen returned to Japan, they had changed so much that their own mothers no longer recognised them.[15] The sojourn of the Japanese emissaries in the West created what amounted to a veritable media sensation in the early days of European printing, with over 78 books about their mission published between 1585

permanently housing a Japanese ambassadorial representation. By the same token, to say that 'Jan Huygen van Linschoten, had sailed on Portuguese ships to Japan' is not quite the same thing as saying 'Jan Huygen van Linschoten, had sailed on Portuguese ships, which plied the seas between Europe and Japan'. Historical records indicate that van Linschoten did not travel further east than Goa. However, at Goa he did meet his countryman Dirk Gerritsz. Pomp, who likewise hailed from Enkhuizen and who had sailed under the Portuguese flag to both Japan and China, and whose observations were incorporated by van Linschoten into his *Reysghefchrift*, published in 1595, and in the *Itinerario*, published in 1596, alongside all the knowledge that van Linschoten had gleaned from the Portuguese. A more general issue is the trend whereby modern editorial boards attempt to destroy the orthography of European proper names and tamper with historical spellings by enforcing semi-literate guidelines, an Americanised use of punctuation marks or monstrosities such as the *Chicago Manual of Style*. The practice of *verschlimmbessern* by less erudite editors has become so widespread that even some editors of Oxford handbooks sometimes ineptly tamper with good English spellings, replacing them with Americanised orthographies. At this juncture, I consider myself most fortunate to be able to thank Paddy Booz for his meticulous copy editing.

15 Michael Cooper, S.J. 1974. *Rodriques the Interpreter: An Early Jesuit in Japan and China*. New York: John Weatherhill (pp. 70–72); Maria Manuela Silva e José Marinho Álvares. 1986. 'A primeira embaixada japonesa à Europa, 1582–1586: Significado epocal da viagem', pp. 25–44 in *Ensaios Luso-Nipónicos*. Lisboa: A. Coelho Dias, Lda.

FIGURE 4.3 Newe Zeyttung, auß der Insel Japonien 'A new tiding from the island of Japan', showing the four envoys comprising the Japanese embassy to Pope Gregory XIII in March 1585, a 37 × 30.7 cm colour depiction printed by Michæl Manger in Augsburg in 1586, Kyōto University Library

and 1593, over half of which were published in 1585, the year of their visit to Rome.[16]

When the four Japanese emissaries were first received by king Philip II at the Escorial on the 14th of November 1584, the young noblemen presented various gifts to the Iberian court, making apologies for their quality, since they had been compelled to make preparations for their voyage in great haste. One of their gifts was a porcelain cup. Diogo de Mesquita, the Jesuit priest who escorted the men to the court, explained to the Spanish monarch that the cup was used for drinking rice wine.[17]

16 Adriana Boscaro. 1973. *Sixteenth Century European Printed Works on the First Japanese Mission to Europe: A Descriptive Bibliography*. Leiden: E.J. Brill.

17 The Jesuit priest Diogo de Mesquita was 29 years old when he embarked in Nagasaki to accompany the Japanese legation to Rome. A Jesuit brother, who was a young Japanese man from Isahaya 諫早, twenty years old at the time of embarkation, and remembered solely by his European name Jorge Loyola, accompanied the young emissaries as secretary and interpreter. On the return journey, Loyola died of consumption at Macau at the age of 27 in August 1589. Whereas de Mesquita tutored the four boys in Latin during the journey, Loyola tutored them in Japanese. Two Japanese boys, who are remembered by the Portugese names of Constantino Dourado and Agostinho, also accompanied

> … refpondeo el Rey, como, não bebem elles agua quente? refpondeo o P.e, q̃ fim, mas q̃ tambem fazião vinho: tornou a perguntar el Rey, fomente no Inverno bebião aqua quente? diffelhe o P.e, q̃ fempre; de q̃ muito fe efpantou; e não sem cauza fe efpantou, de os Japões a beberem fempre quente; poes elles em Verão, e Inverno a bebe refriada cõ neve.[18]

> … to which the king replied, 'How is that? Do they not drink hot water?' To this the priest responded, 'Yes, but they also make wine'. In turn, the king inquired whether they drank hot water only in wintertime? To this the priest replied that they always drank hot water, which astonished the king greatly. And it is not without reason that the king was surprised, for they drink hot water in the summer, and in the winter they drink it chilled with snow.

The astonishment of Europeans at the existence of hot beverages may surprise the modern reader. Yet even today European visitors to Nepal register a sense of surprise when they are presented with a glass of plain hot water to drink, as has long been the custom during the cold season. Since plain hot water as a beverage still surprises many Westerners in the Himalayas today, it is easy to imagine the astonishment of Europeans in the 16th century, who knew nothing of tea, coffee or cacao.

After the audience at the Escorial, the embassy sailed from Alicante to Leghorn, where the Japanese disembarked on the 1st of March and travelled thence via Pisa, Florence and Siena to Rome, where they had an audience with pope Gregory XIII on the 23rd of March 1585. Leaving Rome on the 3rd of June 1585, the emissaries visited Assisi, Loreto, Ancona, Bologna, Ferrara, Venice, Verona, Milan and Genoa. Their sojourn on the Venetian lagoon lasted from the 26th of June to the 2nd of July 1585. In Venice, Domenico Tintoretto (1560–1635), son of Jacopo Robusti Tintoretto (1518–1594), painted a portrait of the head of the Japanese delegation.[19] After sailing from Genoa to Barcelona, they travelled back to Lisbon via Madrid. Finally, the Japanese embassy embarked in Lisbon on 13th of April 1586, and sailed back via Mozambique, Melinde (*Malindi*), Goa, Cochin, Malacca and Macao to the East. The emissaries disembarked at Nagasaki over four years later, on the 21st of July 1590.[20]

What intrigues us when we read accounts such as the encounter in the Escorial is not what we read about Japan, for the descriptions of Japan strikes us as familiar now, at least all of us with some familiarity with Japan. Rather, the reactions of Europeans of the period today strike us as curious. In June 1585, in the village of Kazusa 加津佐 at the mouth of the Horikawa 堀川 river on Kyūshū, Fróis wrote a treatise on the differences between the Japanese and Europeans. In his long list, the contrasts are numbered within each chapter. The sixth chapter, for example, begins as follows:

> Nós comemos todas as couzas com a mão; os Japões, homens e molheres, defde crianças, comem com dous paos.[21]

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the embassy on the entire journey as chaperons (João do Amaral Abranches Pinto, Yoshitomo Okamoto et Henri Bernard. 1942. *La Première Ambassade du Japon en Europe, 1582–1592, Première Partie: Le traité du père Fróis (texte portugais)* [Monumenta Nipponica Monograph № 6]. Tokyo: Sophia University; Michael Cooper. 2005. *The Japanese Mission to Europe, 1582–1590*. Kent: Global Oriental).

18 do Amaral Abranches Pinto, Okamoto et Bernard (op.cit., p. 88).

19 Paola di Rico. 2014. 'L'ambasciatore giapponese di Domenico Tintoretto', pp. 83–94 in Sergio Marinelli, ed., *Aldèbaran II, Storia dell'Arte*. Milano: Fondazione Trivulzio.

20 The Italian port of Livorno is traditionally known in English as *Leghorn*. The Portuguese colony of Macau is conventionally written as *Macao* in English as well as in French, where this orthography yields a lovely trisyllabic Gallic pronunciation.

21 Josef Franz Schütte, ed. 1955. *Luís Fróis S.J.—Kulturgegensätze Europa-Japan* (1585): *Tratado em que se contem muito susinta e abreviadamente algumas contradições e diferenças de custumes antre a gente de Europa e esta provincia de Japão*. Tokyo: Sophia University (Cap. 6: 1, p. 170). In addition to Schütte's priceless 1955 edition of the deteriorating manuscript which they found

FIGURE 4.4
The Japanese emissary Itō Sukemasu 伊東祐益, baptised Mancio マンショ at age 15, painted by Domenico Tintoretto in 1585. Inscribed on the back of the painting: 'D. Mansio Nipote del Re di Figenga Amb[asciator].^{e} del Re Fra[nces].^{co} Bvgnocingva a sva San[tit].^{a}, MDXXCV', 54×43 cm, Fondazione Trivulzio, Milan

> We eat all things with our hands, but the Japanese, men and women as well as children, eat with two sticks.

Today everyone knows that the Japanese eat with chopsticks. Yet many today are unaware that at the dawn of European colonial expansion most Westerners still ate with their hands. More striking than external practices such as eating habits are the psychological changes which have taken place and which are so well described by Fróis. For the modern European, reading Fróis is time travel. Yet the aim of Fróis' treatise was to amaze his Western contemporaries with descriptions of Japan, not to astonish readers of the future with descriptions of European ways of his own period of time. The psychological changes in Occidental mentality and sensibilities are perceptively documented by Norbert Elias whose writings on the topic are to be highly recommended.[22] Tea embod-

in the library of the Académia de la História in Madrid, a popular Portuguese edition is now also available: Luís Fróis. 2001. *Tratado das Contradições e Diferenças de Costumes entre a Europa e o Japão* (Rui Manuel Loureiro, ed.). Macao: Instituto Português do Oriente.

22 Norbert Elias. 1939. *Über den Prozess der Zivilisation: Soziogenetische und psychogenetische Untersuchungen* (two volumes). Basel: Verlag Haus zum Falken. The work was republished in 1969 and has since been translated into French, English, Dutch and other languages. Pontificating from Kassel and Bremen, the prolix deliberations of Hans Peter Duerr, in five volumes beginning with *Nacktheit und Scham* in 1988 (Frankfurt am Main: Suhrkamp Verlag), take issue with what is manifestly Duerr's own wilful misinterpretation of Elias' the-

ies one such transformation, and the impact which tea was to have on Western culture and world history proved to be enormous.

Tea by way of the Silk Route

Older than any mention of tea in a Western source is the mention of tea by two Arabian travellers, who heard the name of tea in a form that has come down to us in the form *ša*, or *cha* in the French transcription of Eusèbe Renaudot. The record of two voyages to China undertaken in the years of the Hegira 237 and 264 (i.e. AD 851 and AD 877), four centuries before Marco Polo, was preserved in a manuscript of much later date. The manuscript, which was kept in the private library of the *comte* Charles Éléonor Colbert de Seignelay (1689–1747), was dated by Renaudot as having been written prior to the year of the Hegira 569 (i.e. AD 1573).[23] The two Arabs sailed to China across the high seas.

The first mention of tea by name in a published Western source did not reach Europe by way of the high seas, however. The earliest surviving attestation in print dates from 1559 and records a report about tea which arrived in the Adriatic port of Venice by way of the Silk Road. The Venetian Marco Polo (1254–1324) appears not to mention tea in the oldest surviving versions of his writings.[24] This may be due to the fact that he found this beverage too trivial a matter,[25] or perhaps also because the then reigning Mongol dynasty did not fawn over tea in the way that the Chinese did. Likewise, the Franciscan priest Willem van Rubroeck,[26] who travelled from Flanders overland to the khan of the Golden Horde at Qaraqoram and back between 1253 and 1255, often mentions the drinking of fermented mare's milk and sour cow milk and the consumption of lots of alcohol brewed from rice or millet, but never mentions tea.[27]

Marco Polo's overland journey from 1271 to 1295 took him along an old network of overland trade routes that had stretched between China and the Mediterranean basin since Græco-Roman times. This overland web of trade routes was first collectively named the *Seidenstrasse* or 'Silk Road' by Ferdinand von Richthofen in 1877.[28] He also referred to these trade routes by the older name *Sererstrasse*, with *Serer* being the German rendering of Latin *Seres* or Greek Σῆρες, the name for a people living to the east of the Tengri Tağ تنكرى طاغ or Tiānshān 天山 mountains. The Parthians brought silk to Greece and Rome from the land of the people whom they called *Seres*. It remains moot whether the term *Seres* actually denoted the Chinese themselves or intermediaries in the overland trade such as the Tocharians or the Uighur.

Silk was named σηρικόν in Greek and *sericum* in Latin, and the land whence this commodity came was called *Serica*. The name *Serica* is the oldest Western name for China, although the name might have strictly speaking denoted just the region that comprised what today is the northwestern portion of modern China. Long before tea, China was famous in the West for silk, and silk and other commodities from the East travelled along the Silk Road to Byzantium and to Venice. Trade across the Silk Route thrived from Hàn to Táng times, and went into decline during the Sòng and then from

ory, whereby Duerr tragically falls short of grasping the main thrust of Elias' thinking.

23 Abbé Eusèbe Renaudot 1718. *Anciennes Relations des Indes et de la Chine, de deux Voyageurs Mahometans, qui y allerent dans le neuviéme fiecle; traduits d'arabe avec Des Remarques fur les principaux endroits de ces Relations*. Paris Chez Jean-Baptiste Coignard, Imprimeur ordinaire du Roy (pp. xxx-xxxj, 222–227).

24 Guignard (1983, op.cit.).

25 Igor de Rachewiltz. 1997. 'Marco Polo went to China', *Zentralasiatische Studien*, 27: 34–92.

26 The town of Rubroeck now lies in French Flanders near Kassel, and in French the name of the town is now spelt Rubrouck.

27 William Woodville Rockhill, trans. & ed. 1900. *The Journey of William of Rubruck to the Eastern Parts of the World 1253–55, as narrated by himself*. London: The Hakluyt Society.

28 Ferdinand Freiherr von Richthofen. 1877. *China: Ergebnisse eigener Reisen und darauf gegründeter Studien (Erster Band, einleitender Theil)*. Berlin: Verlag von Dietrich Reimer.

the late 16th century onwards dwindled to just a trickle. It has been argued that not just the competition of European seaborne trade played a role, but the rising absolute costs and new risks of the overland trade were also principal causes for the drying up of the Silk Route at this time. During the Míng and Qīng dynasties, there was less Chinese trade with Persia and Central Asia.[29]

At the time that the first report of tea reached Venice, the prosperous and powerful city commanded a large fleet and flourished as a principal centre of the fine arts and learning. Yet as an imperial power in the Mediterranean, Venice had already fallen into decline due to the coming of the Turks. This decline in the late 15th and early 16th century was the culmination of two developments. One of these had been set into motion long before, in the 10th century, when a sept of the Oghuz Turks on the Central Asian steppe broke away and migrated south to the banks of the Jaxartes. Here these linguistic ancestors of today's Turks and Azeri converted to Islam. Under the Seljuq dynasty they migrated to the Levant through Iran, leaving behind a trail of devastation. In the 11th century, the Turks gained a foothold in the Anatolian portion of the Byzantine empire in eastern Asia Minor, and in the 12th century they expanded into much of what today is Turkey.

The Mongol Invasions broke up the Seljuq empire in the 13th century, but in 1291 the Turks reconsolidated under Osman I, who established an emirate in northwestern Asia Minor. In 1453, one of his successors, Mehmet II, conquered Constantinople. In 1461, Trebizond too fell to the Turks. The Turkish conquests blocked the main outlets of the overland caravan routes to the East. Emerging as a naval power, the Ottoman empire waged war against the Venetians from 1463 to 1479 and seized from Venice the Aegaean islands of Negroponte, as Euboea was then known, and Lemnos as well as Albania Veneta. Venice continued to trade with the Saracens at Damascus, Tyre, Antioch and Alexandria, and, after 1479, trade resumed with Constantinople. Annually roughly a dozen Venetian round ships and half a dozen galleys would carry cargo between the Levant and Venice.[30]

At the same time, however, the second development which precipitated the fall of Venice as a commercial hub in Eurasian trade had been set into motion by Henry the Navigator in the first half of the 15th century. Decades later, on a voyage financed by the Spanish crown, the Genoese mariner Cristoforo Colombo, who is remembered in English as Christopher Columbus and in Spanish as Cristóbal Colón, discovered the New World, making landfall in the Bahamas on the 12th of October 1492. Vasco da Gama reached India on the 20th of May 1498 by circumnavigating the Cape of Good Hope and so Portugal emerged as a maritime power, trading with the Far East. Within a decade from their first making landfall at Calicut, the Portuguese would come to dominate maritime trade in African and Asian commodities.

A second war between Venice and the Ottomans was waged from 1499 and 1503 over the Aegaean, Ionian and Adriatic, with Venice losing control over several islands in the Aegaean and strongholds in the Morea, as the Peloponnese was known to the Venetians. Then in 1516, the Ottomans captured most of Egypt and supplanted the Mamluk dynasty, who were reduced to puppet rulers. The subsequent occupation of both Alexandria and the Levant by the Ottomans in 1517 closed the Red Sea route to European traders. The third war between Venice and the Ottomans was waged from 1537 to 1540, and the Cyclades, the Sporades and the last Venetian strongholds on the Peloponnese were seized by the Turks.

Ironically it was during this period of decline in the Venetian trade with Asia, in the year 1559,

29 Morris Rossabi. 1990. 'The "decline" of the central Asian caravan trade', pp. 351–370 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

30 Carla Rahn Phillips. 1990. 'The growth and composition of trade in the Iberian empires, 1450–1750', pp. 34–101 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

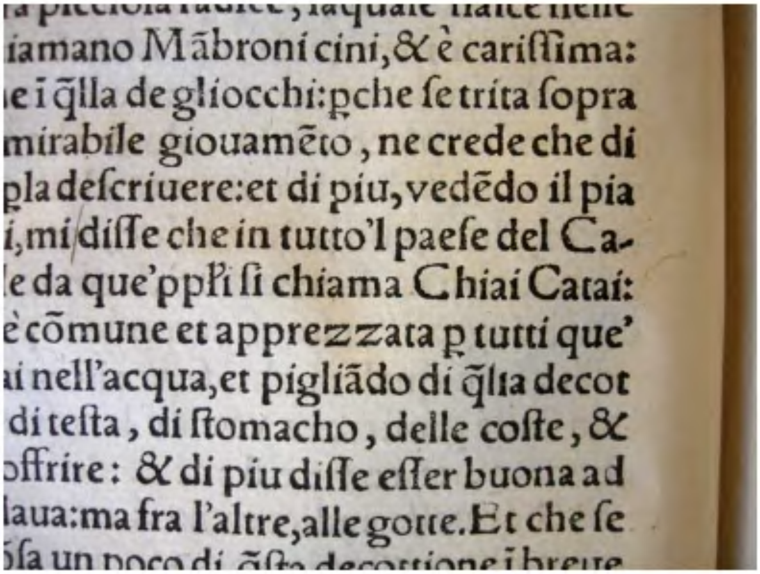
iamano Mābroni cini,& è cariſſima:
e i q̃lla degliocchi:pche ſe trita ſopra
mirabile giouamēto, ne crede che di
pla deſcriuere:et di piu, vedēdo il pia
i,mi diſſe che in tutto’l paeſe del Ca-
e da que’ppli ſi chiama Chiai Catai:
è cõmune et apprezzata p tutti que’
i nell’acqua,et pigliãdo di q̃lla decot
di teſta, di ſtomacho, delle coſte, &
offrire: & di piu diſſe eſſer buona ad
laua:ma fra l’altre,alle gotte.Et che ſe

FIGURE 4.5
The first mention of tea in a printed Western source as چای ختای *čā-ye khatāi* ‘the *čā* of Cathay’ in the second volume of Giovanni Battista Ramusio’s *Navigationi et Viaggi*, posthumously published in Venice in 1559

that tea is first mentioned in a Venetian publication under the name *Chiai Catai* ‘the tea of Cathay’. This earliest attestation appeared in the second volume of Giovanni Battista Ramusio’s *Navigationi et Viaggi*.[31] The geographer Ramusio worked for the Council of Ten of the Venetian republic, which ruled over much of the Adriatic coast from Venice, prospered through trade and was known as *la Sereniſſima Republica di Venetia* ‘the most serene republic of Venice’.[32] He collected first-hand accounts of explorers and travellers and translated them into Italian in the three volumes of his *Navigationi et Viaggi*. The first and third volumes appeared in 1550 and in 1556 respectively. The manuscript of the second volume, in which the first published reference to tea appears, was destroyed in a fire. Consequently, the second volume was only published in 1559, two years after Ramusio’s death.

The passage below, contained in the *Espositione* to the second volume, tells the story of the Persian merchant Chaggi Memet, who refers to tea as *chiai*.

> vedēdo il piacer grãde, ch’io ſopra gl’altri pigliauo di q̃ſti ragionamēti, mi diſſe che in tutto’l paeſe del Cataio s’adopera ancho vn’altra herba, cioè le foglie, laquale da que’ppli ſi chiama Chiai Catai: et naſce nella terra del Cataio, ch’è detta Cacianfũ: laq̃le è cõmune et apprezzata p tutti que’ paeſi. fanno detta herba coſi ſecca come freſca bollire aſſai nell’acqua, et pigliãdo di q̃lla decottiõe vno o doi bichieri à digiuno, leua la febre, il dolor di teſta, di ſtomacho, delle coſte, & delle giũture, pigliãdola però tãtto calda quãto ſi poſſa ſoffrire: & di piu diſſe eſſer buona ad ĩfinite altre malatthie, delle q̃li egli p allhora nõ ſi ricordaua: ma fra l’altre, alle gotte. Et che ſe alcuno p forte ſi ſente lo ſtomaco graue p troppo cibo, p̃ſa un poco di q̃ſta decottione ĩ breue tēpo hara digerito. & p ciò è tanto cara & apprezzata, ch’ogn’uno che và ĩ viaggio ne vuol portare ſeco, et coſtoro volētieri darebbono, p q̃llo ch’egli diceua, sẽpre vn ſacco di rheubarbaro p vn’oncia di Chiai Catai: Et che quelli

31 The Italian merchant Niccolò de’ Conti, who travelled overland to Asia between 1414 and 1439 and then by sea to Sumatra and Java and then to Champa in mainland Southeast Asia, did not mention tea (Geneviève Bouchon, Anne-Laure Amilhat-Szary et Diane Ménard. 2004. *Le voyage aux Indes de Nicolò de’ Conti (1414–1439)*. Paris: Chandeigne).

32 In contemporaneous sources, the Venetian republic was also referred to as *la Sereniſſima Republica Veneta* ‘the most serene Venetian republic’ or, most often, just as *la Sereniſſima Republica* ‘the most serene republic’.

> popoli Cataini dicono che ſe nelle noſtre parti & nel paeſe della Perſia & Franchia la ſi conoſceſſe, i mercanti ſenza dubio non vorrebbono piu comperare rauend Cini, che coſi chiamano loro il Rheubarbaro. rhubarb.[33]

> Seeing how much pleasure I derived from all the things that he was telling me, he said that all over Cathay they made use of another herb, or rather its leaves, which these people call the *chiai* of Cathay. It grows in the part of Cathay called Cacianfù[34] and is used and appreciated throughout all those countries. They boil this herb, dried or fresh, in water. Taking one or two cups of this decoction on an empty stomach alleviates fever, headache, stomach ache, pain in the sides or joints, whilst drinking it as hot as you can bear it. He said that, moreover, this stuff was good for countless other ailments, most of which he could not even remember, though gout was one of them. If the stomach feels bloated and heavy from having over-eaten, then drinking just a bit of this decoction will help digest the food in a short time. It is so dear and highly valued that nobody travels without it, and people will gladly give a sack of rhubarb [i.e. dried medicinal *Rheum* rhizome] for just one ounce of Chinese *chiai*, and the Chinese people say that if only people knew about this stuff in Persia or France, the merchants here would without a doubt cease to buy *ravend Cini*, as they call rhubarb.

The Persian merchant Chaggi Memet used the expression *čā-ye khatāi* چای ختای 'the *čā* of Cathay' or 'tea of Cathay'.

In the Turkic languages of Central Asia, such as Uighur, Uzbek or Kazakh, the word for 'tea' is now written as *čāī* چاي, *čoį* чой and *šaį* шай respectively. However, this Turkic word was traditionally written in Persian script as *čāi* چای, and in Roman orthography the word was written as *çay* and in the Cyrillic alphabet as чай. It appears that the Central Asian word is not originally Turkic, however, but instead represents a resegmented reborrowing into Turkic and other languages from Persian, whereby the first portion of the Persian expression *čā-ye khatāi* چای ختای 'tea of Cathay' was borrowed as the word for tea, with the Persian genitive ending or *ezāfe* اضافه being mistaken for part of the name for tea.[35] In this roundabout way, the Central Asian Turks adopted and then gave back to the Persians their word for tea as *čāi* چای. As a consequence, the Russians acquired their word чай *čaį* and the speakers of Hindi the word *cāy* चाय. Arabic *šāī* شاي 'tea' likewise derives from the same source, with the initial *š* substituting for the phoneme *č*, which in Arabic phonology is lacking.

In the following decades, the news about tea spread throughout learned circles in northern Italy. Giovanni Botero, writing in Turin in 1583, pointed out the salubrious effects of tea and contrasted its wholesome properties with the Occidental habit of drinking wine.

> Hanno anco vn'herba, onde cauano ſucco delicato, del quale ſi ſeruono in vece di vino, ma che

33 Giovanni Battista Ramusio. 1559 [posthumous]. *Secondo Volume delle Navigationi et Viaggi*. Venetia: Tommaso Giunti (p. 15).

34 The count Giovanni Battista Baldelli Boni identified Marco Polo's *Cacianfù* with Hoázhōu 華州 in Shǎnxī 陝西 province, whereas Julius von Klaproth identified Cacianfù to be the original Mongolian name for Hézhōngfǔ 河中府, today known as Púzhōufǔ 蒲州府 in Shānxī 山西 province (Giovanni Battista Baldelli Boni. 1827. *Il Milione di Messer Marco Polo Viniziano secondo la lezione Ramusiana*. Firenze: da'Torchi di Giuseppe Pagani, Vol. 2, pp. 243–245; Julius von Klaproth. 1828. 'Remarques géographiques sur les provinces occidentales de la Chine décrites par Marco Polo', *Nouveau Journal Asiatique*, 2e Série, 1: 97–120, esp. p. 102).

35 João Teles e Cunha. 2002. 'Chá—A sociabilização da bebida em Portugal: séculos XVI–XVIII', pp. 289–329 in Luís Filipe F.R. Thomaz, ed., *Aquém e Além de Taprobana: Estudos Luso-Orientais à Memória de Jean Aubin e Denys Lombard*. Lisboa: Centro de História de Além-Mar, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa (p. 297).

FIGURE 4.6
Henry the Navigator as depicted in the polyptych of the veneration of St. Vincent.

lie mantiene fani, e liberi da quei mali, che fuol partorire à noi l'vso immoderato del vino.[36]

They also have a herb from which they extract a delicate juice, with which they regale themselves instead of wine, but which keeps them healthy and free of those ills to which the immoderate use of wine gives rise in us.

Yet Botero neglected to mention the actual name of this then still unfamiliar commodity.

36 Giovanni Botero. 1583. *Delle Cavse della Grandezza delle Citta, Libri III*. Roma: Apreffo Giouanni Martinelli (p. 61).

Setting Sail for Cipangu

European colonial expansion began with Infante Dom Henrique de Avis, known in English as Prince Henry the Navigator. Henry was born in Porto in 1394 as the fourth son of king John I of Portugal and queen Philippa of Lancaster, sister to king Henry IV of England.[37] Henry dedicated himself

37 The first elder brother Afonso, born in 1390, died in infancy. Most extant books on Portuguese history falsely depict Henry the Navigator using what is evidently the image of his elder brother Duarte or king Edward of Portugal (*regnabat* 1433–1438), wearing a large dark headdress or *chapeirão*, as portrayed on the third panel of the polyptych of the veneration of St. Vincent, kept in the *Museu Nacional de Arte Antiga*. In fact, the only known contemporaneous depiction of Henry is contained in the same painting, with the famous navigator shown as a kneeling bareheaded blond knight in

to crusading for the Christian faith against Islam. In 1415, Henry with his father and brothers successfully attacked the Muslim port of Ceuta, where Henry's zeal and ferocity in armed combat gained him renown.

Henry never married, and he disdained the company of women. From his court of young men he selected the captains for his famous voyages of exploration. In his household, he also kept North African slaves, which he periodically procured along the North African coast. In a panegyrical account of the prince, Gomes Eanes de Zurara (1410–1474) extolled Henry's chastity and recorded his aversion to women and his predilection for keeping young men and boys as slaves in his chambers.[38] In his manuscript entitled *Esmeraldo de situ orbis*, dating from 1506, the navigator Duarte Pacheco Pereira (1460–1533) likewise recorded the prince's abstention from the company of women, the fact that he set up his household of seamen on the windy Cape of St. Vincent at Sagres and that he sent for a cartographer named Jacome from the island of Mallorca to serve as an instructor in cartography and navigation.

> …& paſſados alguns annos deſpois de Cepta ſer tomada a ElRey ſeu Padre finado elle fez no cabo de Sam Vicente que por outro nome antiguamente ſacro promontorio ſe chamaua a ſua villa de terça naval ſituada ſobre angra de Sagres que oje em dia aly eſta fundada; honde ſe apartou com ſua caſa das fadiguas & maldades deſte mundo & uiueo ſempre tam vertuoſa & caſtamente que nunca conheceo mulher nem bebeo vinho nem foy achado em outro vicio que de Reprender foſſe … iſſo meſmo mandou a Ilha de Malhorca por um meſtre Jacome meſtre de cartas de marear na qual Ilha primeiramente ſe fizerom as ditas cartas, & com muitas dadiuas & merces ho ouue neſtes Reynos ho qual as enſinou a fazer aquelles de que os que em noſſo tempo vivem aprenderom …[39]

> … a few years after Ceuta had been taken for the king, his father, he built the villa for his naval force on the Cape of St. Vincent, by which other name this sacred promontory was once known, situated on the cove of Sagres, where in his house he could withdraw from the woes and wickedness of this world, and where he always lived virtuously and chastely, whereby he never knew a woman nor ever drank wine, nor was he ever observed to indulge in any other vice that might merit reprimand … and he sent for a certain master Jacome, a master of naval charts, from the island of Mallorca, on which island such maps were first made, and he dispatched many gifts and presents, for he had heard in these realms that it was he who taught others to do those things that they who live in our time now learn …

This account was repeated in English just over a century later, in 1625, in one of the voluminous works of Samuel Purchas.

> This illuſtrious Henry hauing giuen proofe of his valour againſt the Infidels at Cepta, deuiſed with himſelfe, how he (being Gouernor of the Militarie Order of IESVS CHRIST, formerly inſtituted, and endowed to maintaine Warres againſt the Mores, alreadie expelled out of Portugal) might aduance the honor of his Name and Order, in

the fifth of the six panels of the polyptych (Dagoberto Lobato Markl. 1988. *O retábulo de São Vicente da Sé de Lisboa e os documentos*. Lisboa: Caminho).

38 Gomes Eanes de Zurara. 1978, 1981. *Crónica dos feitos notáveis que se passaram na conquista da Guiné por mandado do Infant D. Henrique* (two volumes). Lisboa: Academia Portuguesa da História.

39 Duarte Pacheco Pereira. [posthumous copy of manuscript made after 1750, kept in the Biblioteca Nacional de Portugal]. *Principio do Esmeraldo de situ orbis, feito e composto por Duarte Pacheco, caualeiro da Caza del Rey Dom João o Segundo de Portugal* (ff. 31r, 48v); Raphael Eduardo de Azevedo Basto, ed. 1892. *Esmeraldo de Situ Orbis por Duarte Pacheco Pereira*. Lisboa: Imprensa Nacional (pp. 37, 58); cf. Duarte Pacheco Pereira. 1954. *Esmeraldo de situ orbis, com introdução e anotações históricas por Damião Peres* (3ª edição). Lisboa: Academia Portuguesa da História.

FIGURE 4.7
Statue of Henry the Navigator at Belém

Conquefts which others had not yet attempted, and therefore in Difcoveries of Countries yet vnknowne. To this end he fpent his life in fingle eftate, and in the ftudies of the Mathematikes: for which purpofe, he chofe the clearer Ayre of Cape S. Vincent … He alfo from Maiorca caufed one Mafter *Iames*, a man skilfull in Nauigation, and in Cards and Sea Inftruments, to be brought into Portugall, there at his charge, as it were, to erect a Schoole of Marinerfhip, and to inftruct his Countreymen in that Myfterie.[40]

The chronicler Zurara ascribed great significance in Henry's natal horoscope to the prominent position of Mars in the eleventh house, the house of secrets and ambitions. Whatever the significance of the astrological particulars of the prince's horoscope, it is certain that Henry's personality and his proclivities were of pivotal importance in setting into motion European colonial expansion, which subsequently changed the face of the planet and put an enduring Occidental imprint on globalisation.[41]

40 Samuel Purchas. 1625. *Haklvytvs Posthumus or Purchas his Pilgrimes, Contayning a History of the World, in Sea voyages, & Lande Trauells, by Englishmen & others* (four volumes). London: by William Stansby for Henrie Fetherftone (The fecond Booke, Chap. 1, § 2, p. 5). Such historical testimony merits careful scrutiny, for one modern Portuguese historiographer stridently claims that the famous school for seamen, *Terça Naval* at Sagres, represents an ahistorical myth (Sérgio Luís de Carvalho. 2015. *Equívocos, enganos e falsificações da história de Portugal*. Lisboa: Planeta, pp. 86–88).

41 Russell refers only obliquely to Henry's natural inclinations, whereas Johnson discusses the prince's proclivities explicitly in an article and an essay, the latter posing as a critique of Jaime Cortesão's historiographical position regarding Portuguese pre-Colombian explorations in the New World (Peter Edward Russell. 2000. *Prince Henry 'The Navigator': A Life*. New Haven: Yale University Press; Harold B. Johnson. 2003. 'O caráter do infante D. Henrique: uma abordagem freudiana', *Textos de História*, 11 (1/2): 217–244; Harold B. Johnson. 2004. *Dois estudos polémicos*. Tucson, Arizona: Fenestra Books).

FIGURE 4.8 The integral polyptych of the veneration of St. Vincent

The tiding that islands had been encountered in the waters west of Gibraltar long ago by the Phoenicians was recorded by Pliny the Elder in his *Naturalis Historia* in 77 AD. Yet subsequently these insular habitats evidently remained undisturbed by any human presence for over two millennia. Madeira and the Azores had seen no previous human habitation. However, the Canary Islands were inhabited by the Guanche, who appear to have spoken tongues related to the Berber languages. The Canaries were probably not visited by Europeans since their mention by Pliny the Elder (23–79 AD) until their rediscovery by the Genoese mariner Lancelotto Malocello in 1312, who settled on the island of Lanzarote for well over a decade but was in the end driven away by the native Guanche inhabitants.[42]

In the summer of 1341, the Florentine seaman Angiolino 'Angelinus' del Tegghia de' Corbizzi and the Genoese seaman Niccoloso da Recco led an expedition of Florentine, Genoese and Spanish sailors to the Canary Islands in the service of king Afonso IV of Portugal (*regnabat* 1325–1357). They were able to observe that the Guanche had attained just a Neolithic stage of technological development.[43] The Guanche were therefore ill-equipped for the attacks launched against them ninety years later, led by the two French seamen Jean de Béthencourt and Gadifer de la Salle in 1402 on behalf of the Castillian crown. The Guanche tribes were subjected to repeated onslaughts and to ruthless slaughter by the Spaniards. In September 1479, Portugal conceded Castillian sovereignty over the islands by the Treaty of Alcáçovas. By 1496 the entire archipelago had been subjugated by Castille.

Genoese maps from the middle of the 14th century indicate that undocumented maritime expeditions had sighted additional islands.[44] Historically

42 José Juan Suárez Acosta, Felix Rodriguez Lorenzo, Carmelo L. Quintero Padrón. 1988. *Conquista y Colonización*. Santa Cruz de Tenerife: Centro de la Cultura Popular Canaria (p. 23).

43 Sebastiano Ciampi. 1826. 'Lettera de prof. Sebastiano Ciampi, sulla scoperta dell'Isole Canarie, fatta l'anno 1341, dai navigatori Fiorentini, Genovesi e Spagnuoli', inc. *De Canaria et de insulis ultra Hispaniam in Oceano noviter repertis*, pp. 133–147 in Giovan Pietro Vieusseux, ed., *Antologia*, XIV (ottobre, novembre dicembre 1826) Firenze: Luigi Pezzati; Sebastiano Ciampi. 1827. *Monumenti d'un Manoscritto Autografo di Messer Gio. Boccacci da Certaldo, trovati ed illustrati da Sebastiano Ciampi*. Firenze: Giuseppe Galletti (pp. 18–19).

44 Charles Raymond Beazley and Edgar Prestage, transl. 1896, 1899. *The Chronicle of the Conquest and Discovery of Guinea, written by Gomes Eannes de Azurara* (two volumes). Cambridge: The Hakluyt Society (Vol. II, pp. lxxxv–lxxxvii).

FIGURE 4.9
Portuguese caravel with its characteristic lateen sails, this one being the *Caravela de armada* of João Serrão in 1502, as depicted in the *Livro das Armadas* (1566), kept at the Academia das Ciências de Lisboa

documented discovery by the Portuguese began in 1419, when two squires of Henry's household, João Gonçalves Zarco and Tristão Vaz Teixeira, accidentally discovered the uninhabited archipelago of Madeira. Around 1425, these two seamen supervised the Portuguese colonisation of Madeira. Bartolomeo Pallastrelli, the son of a Lombard knight named Filippo, who had immigrated to Portugal, became another young knight of Henry's household. Known in Portuguese as Bartolomeu Perestrelo, he undertook the colonisation of the island of Porto Santo.

The Azores were first discovered by Diogo de Silves in 1427,[45] and they were discovered yet again in 1431 by another young seaman from Henry's household, Gonçalo Velho. Previously, friar Gonçalo had fought in the siege of Ceuta and subsequently served as a corsair in command of one of Henry's barinels. In 1434, two other squires attached to Henry's household, Gil Eanes and Afonso Gonçalves Baldaia, each piloted a caravel south along the North African coast and became the first European seamen to pass beyond Cape Bojador, a headland on the northern portion of the coastline of today's Western Sahara. The last voyage organised by Henry the Navigator took place in 1456, when the young Venetian seaman Alvide da Ca' da Mosto discovered Cape Verde and explored the Senegalese coast for the Portuguese crown.[46]

Once Henry and his sailors had taken to the high seas, there was no stopping European maritime exploration. Today the place names at Japanese railway stations are indicated not just in Japanese *kanji* and *hiragana*, but also invariably in Roman script or *rōmaji*. The global usage of the alphabet of Rome in all the world's nations and the worldwide influence of Occidental culture more generally are both outcomes of a process that was

45 Russell (2000: 100).

46 Purchas (1625, Vol. 1, The fecond Booke, Chap. 1, § 2, pp. 4–6); Jean-Paul Alaux. 1931. *Vasco de Gama ou l'épopée des Portugais aux Indes*. Paris: Éditions Duchartre; Geneviève Bouchon. 2005. 'Les navigateurs portugais, pionniers de la découverte de l'Inde: Vasco de Gama (1469–1524)', pp. 9–29 in Hugues Didier, ed., *Découvertes de l'Inde: de Vasco de Gama à Lord Mountbatten (1497–1947)*. Paris: Kailash Editions.

set into motion by Henry and his seamen. These explorations were immediately rooted as much in the struggle of Christian civilisation against Islam as they were in Henry's predilection for populating his court with young seamen and his household with young North African slaves. After Henry's death in 1460, Portuguese seamen reached Sierra Leone in 1462, the Equator in 1471 and the Congo in 1484, and three years later, in a voyage which lasted from 1487 to 1488, the Portuguese would round the southern tip of Africa and enter the Indian Ocean.

The Portuguese were not the first to round the southern tip of Africa. The Phoenicians circumnavigated the Cape of Good Hope, on a three-year voyage from the Indian Ocean to the Atlantic during the reign of the Egyptian pharao Necho II (*regnabat* 610–595 BC). Herodotus (484–425 BC) recorded accounts of the circumnavigation in his *Histories*, but he disbelieved the account which the Phoenicians themselves had provided of their voyage because 'These men made a statement which I do not myself believe, though others may, to the effect that as they sailed on a westerly course round the southern end of Libya, they had the sun on their right—to northward of them'.[47] With his characteristic objectivity and thoroughness, whereby he related all known versions of an event, even those which he disbelieved himself, Herodotus provided the strongest argument for the historicity of the Phoenicians' own account of their circumnavigation of Africa in that the sun was to their starboard as they rounded the Cape of Good Hope as they headed west toward the Atlantic. This phenomenon was beyond the experience of the Greeks and can therefore not have been fabricated.

Before the Portuguese, an attempt was also undertaken to circumnavigate Africa from the Atlantic side. In May 1291, a Genoese expedition set out to circumnavigate Africa in two galleys captained by the brothers Ugolino and Vadino Vivaldo. In the hope of reaching India by sea, they sailed down the Moroccan coast as far as the *cabo de Não*, where their gallies were last seen.[48] The old Portuguese name *cabo de Não* commemorates this voyage and signifies the 'cape of no', in the sense of 'no return'. After passing the *cabo de Não*, the Vivaldo brothers were never seen again. The cape is connected to the Portuguese proverb that was current at the time of Prince Henry the Navigator, *Quem passar o cabo de Não, ou tornará ou não* 'He who passes the cape of no will either turn back or he will not return'.[49] This part of the southern Moroccan coast is marked on modern maps as Cap Drâa.

On the 10th of October 1486, king John II of Portugal appointed Bartolomeu Dias (1450–1500) to head an expedition to sail around the southern tip of Africa in the hope of finding a trade route to India that would circumvent Muslim lands and locate the eastern realm ruled by the Prester John of mediaeval legend. In Asia, the Portuguese hoped that Western Christianity would be able to join forces with the congregation of Prester John, known in Portuguese as *Preste João* and in Latin as *Presbyter Johannes*. This mythical Christian patriarch was believed to rule over a Christian church in the East, where believers kept the faith amidst pagans. The legend was no doubt rooted in reports of Nestorian Christians in Asia, miaphysite Christian churches in the Near East and garbled gleanings of other early forms of Christianity that had survived in the East.[50]

Towards the end of the summer of 1487, two caravels and a small square rigger supply ship sailed forth from the mouth of the Tagus. Dias cap-

47 Aubrey de Sélincourt. 1986. *Herodotus: The Histories*. Harmondsworth: Penguin Books (p. 284, Book 4, § 42).

48 Hugh Chisholm, ed. 'Vivaldo, Ugolino and Sorleone de', *Encyclopædia Britannica* (11th edition). Cambridge: Cambridge University Press (Volume XXVIII 'Vetch to Zymotic Diseases', p. 152).

49 Alexandre Magno de Castilho. 1866. *Descripção e Roteiro da Costa Occidental de África desde a cabo de Espartel até o das Agulhas*. Lisboa: Imprensa Nacional (Tomo I, pp. 57, 62–65).

50 Charles Ralph Boxer. 1969. *The Portuguese Seaborne Empire 1415–1825*. New York: Alfred A. Knopf; Charles Ralph Boxer. 2012. *O império marítimo português 1415–1825* (revista e corrigida). Lisboa: Edições 70.

FIGURE 4.10 Portrait of Vasco da Gama in oil on oak by Gregório Lopes (1490–1550), dating from 1524 (Museu Nacional de Arte Antiga, Lisbon)

FIGURE 4.11 Luís Vaz de Camões as portrayed in a copy made by Luís de Resende directly from the now lost original made by Fernão Gomes ca. 1577, when de Camões was still alive

tained the main caravel *São Cristóvão*. The second caravel *São Pantaleão* was commanded by João Infante, and Dias' brother Pero Dias captained the supply ship. They sailed south along the African coast. As they rounded the southern tip of Africa, they sailed through a terrible storm in January 1488 that took them beyond the cape far to the south. After weathering this tempest, they sailed north until they sighted the African coast once again. Dias consequently named the southern cape of the African continent *cabo das Tormentas*, the 'Cape of Storms'. On the 4th of February 1488, they reached the *aguada de São Brás*, known today in Afrikaans as Mosselbaai, and then they arrived at Kwaaihoek on the 12th of March 1488, where they erected a stone pillar known as a *padrão*, bearing the royal arms of Portugal. By this time, the crew pleaded with Dias to turn back, lest they never set eyes on their beloved Portugal again, and the anxious seamen managed to convince their captain.

After their return to Portugal, Bartolomeu Dias oversaw the construction of two new ships, the *São Gabriel* and the *São Rafael*, which would later sail to India, but not under his command. On the 8th of July 1497, Vasco da Gama set sail from Restelo by Lisbon in the mouth of the Tagus with a fleet of four vessels. He captained the 200-tonne *São Gabriel*, whilst his younger brother Paulo captained the *São Rafael*. Nicolau Coelho captained the *Bérrio*, and the supply carrack *São Miguel* was captained by Gonçalo Nunes. After rounding the *cabo das Tormentas* 'Cape of Storms', which king John II of Portugal would later rename *cabo da Boa Esperança* 'the Cape of Good Hope', though the hopeful monarch had never been there himself, Vasco da Gama's fleet anchored at the *aguada de São Brás* or Mosselbaai. They followed the eastern African coast north from Mosselbaai via Moçambique to Mombasa, Malindi and Mogadishu, and then sailed across the Indian Ocean for 23 days to

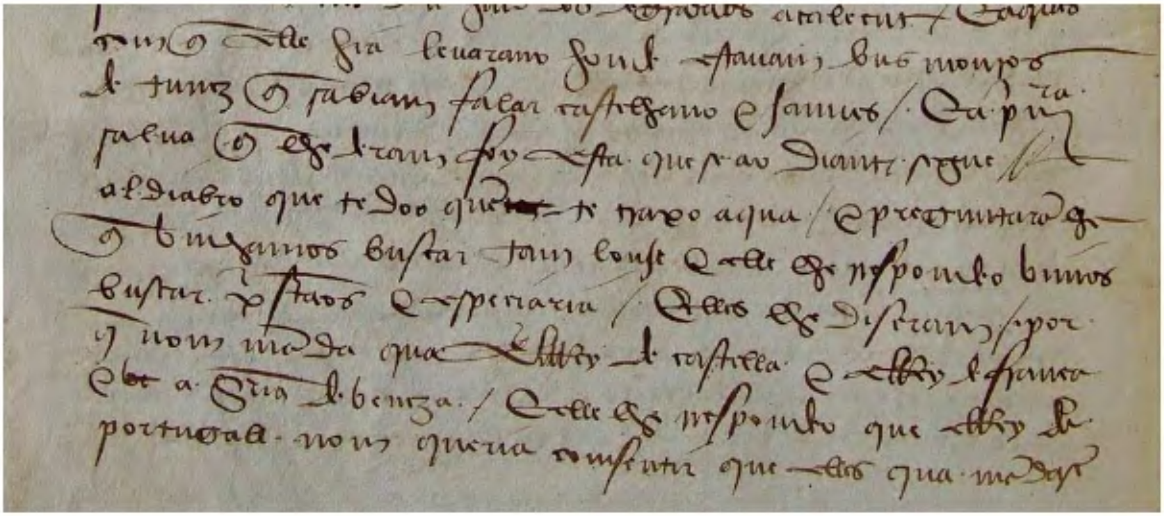

FIGURE 4.12 *Al diabro que te doo* ‘The devil take you’, first words spoken to the Portuguese upon their reaching India (Biblioteca Pública Municipal do Oporto, Manuscript № 804)

make landfall on the 20th of May 1498 at ‘Capua’ (Kāppāṭ കാപ്പാട്) just north of Calicut (Kōẓikkōḍe കോഴിക്കോട്).

A Surprise Welcome

Prince Henry the Navigator had fought against the Muslims, and the principal driving force behind the quest for the sea route to India was to gain direct access to India without having to pass through Muslim lands. Religious enmity was fierce in the minds of the Portuguese, and this sentiment would continue to play a paramount role in their dealings with all whom they met on their voyages.[51] It was in this mind set that the Portuguese circumnavigated Africa and crossed the Indian Ocean in order to be able to avoid the lands of their sworn Saracen enemies.

Then after surviving several hostile encounters with Muslims or *mouros* ‘Moors’ along the eastern coast of Africa, it must have been with some chagrin that Vasco da Gama and his men discovered that the first person and indeed the only people whom they could understand when they finally reached India were Muslim traders from Tunisia, whose first words were *Al diabro que te doo* ‘The devil take you’.[52]

> E ao outro dia ifo mefmo vieram eftes barcos aos noffos navios, e o capitam moor mandou huum dos degradados a Calecut, e aquelles com que elle hia levarano honde eftavam dous mouros

51 Luís Vaz de Camões (1524–1580) composed his epic poem *Os Lusíades* after a long sojourn in Asia, two years at Goa and Malabar from 1553 to 1555, a sojourn on the Red Sea coast, then in Goa again in 1556, then stationed in Malacca, whence he undertook several forays into Indonesia, and then from 1561 to 1568 once again in Goa. Whereas Dante Alighieri (1265–1321), in his *Divina Commedia*, written some time after 1306 and before his death, had depicted both Mohammed and Ali as captive denizens of hell, where they remained forever imprisoned, Luís de Camões thought to identify the prophet Mohammed in *Os Lusíades* as Satan himself (Dante Alleghieri. 1472. *La Divina Commedia*. Foligno: Johannes Numeister, *Inferno*, canto XXVIII; cf. Miguel Asín Palacios. 1919. *La escatología musulmana en la «Divina Comedia»*. Madrid: Imprenta de Estanislao Maestre; Luís de Camões. 1572. *Os Lvsiadas*. Impreffos em Lisboa, com licença da fancta Inquifição, & do Ordinario: em cafa de Antonio Gõçaluez Impreffor, f. 178v).

52 Translated more literally: ’Tis to the devil that I banish you.

de Tunez que ſabiam fallar caſtellano e januês, e a primeira ſalva que lhe deram foy eſta que ſe ao diante ſegue:—Al diabro que te doo: quem te traxo aquà?—e preguntaram-lhe que vinhamos buſcar tam lonje, e elle lhe rreſpondeo:—vimos buſcar chriſtãos e eſpeceria … e depois … vêoſe pera os navios e vêo come elle huum daquelles mouros, o quall tanto que foy em os navios começou de dizer eſtas palavras:—boena vemtura, boena ventura: muitos rrobis, muitas eſmeraldas: muitas graças devês de dar a Deus por vos trazer a terra honde ha tanta rriqueſa.—Era pera nós iſto tanto eſpanto, que o ouviamos fallar e nam o criamos que homem ouveſſe tam longe de Portugall que nos emtendeſe noſſa falla.[53]

And the very next day these boats [from ashore] came out to our ships, and the Moor captain sent ashore one of the convicts [who are on board of our vessels] to Calicut and amongst those to whom he was taken were two Moors from Tunis who could speak Castillian and Genoese, and the first salvo which they uttered was the following:—"The devil take you: Who brought you here?"—And then they asked him what we were seeking so far away from home, and he replied:—"We have come looking for Christians and spices" … and later … he returned to the ships and along with him came one of these two Moors, who, as soon as he got on board, began speaking these words: "Good fortune, good fortune: Many rubies, many emeralds, and much thanks you must give to God for having brought you to a land where there are such riches". For us it was a great surprise when we heard him speak, and we could not believe that there could be a man so far from Portugal who could understand our language.

After Vasco da Gama made landfall on the coast of Kerala, it was only natural that he could find nobody who could speak Portuguese, and the only two people with whom the Portuguese could speak turned out to be two Muslim traders from Tunisia.

It is tempting to dwell on the irony of this first encounter and on the invocation of the devil in the first words uttered by the Muslim traders whom the Portuguese met upon their arrival after a long voyage intended to circumvent Saracen lands. Yet it was the good fortune of the Portuguese mariners to have chanced upon these men. The Portuguese text clearly shows that the first utterance spoken by one of the Tunisians was merely an expletive blurted out in astonishment, which we should perhaps not interpret as an ominous portent. The manuscript quickly thereafter quotes the well meaning words spoken by the amazed Tunisian merchant once he had boarded the Portuguese vessels. The portrayal of the Tunisian traders in the manuscript depicts astonished men extending a cordial reception to fellow foreigners in Asian waters. Three months later, one of the two Tunisians even voyaged back to Europe with da Gama after the first Portuguese sojourn on the Malabar coast had come to an end.[54]

The mastery of Castillian Spanish and Genoese Italian by the two Tunisian merchants was a natural consequence of the close ties which the Ḥafṣid kingdom maintained with the court of Aragon and the Italian cities of Venice and Genoa. Although the Portuguese could only communicate with the

53 The manuscript dates from between 1500 and 1550 and is the oldest existing copy of what is believed to have been Vasco da Gama's original journal of 1497 to 1499. The manuscript, which consists of 45 folios, is kept at the Biblioteca Pública Municipal do Oporto as Manuscript № 804 *Roteiro da primeira viagem de Vasco da Gama à Índia, 1497–1499*. The quoted passage is found on ff. 36–37 of the original manuscript kept in Oporto. A transcription of this text is provided on pp. 51–52 of Herculano's 1861 edition of the manuscript (Alexandre Herculano e o Barão de Castelo de Paiva. 1861. *Roteiro da viagem de Vasco da Gama em MCCCCXCVII (Segunda Edição)*. Lisboa: Imprensa Nacional). The Malayalam vocabulary is found on ff. 89–90 of the manuscript in Oporto and on pp. 116–119 of the transcribed text in Herculano's edition.

54 Sanjay Subrahmanyam. 1997. *The Career and Legend of Vasco da Gama*. Cambridge: Cambridge University Press.

people of the Malabar coast by means of interpreters, they at once undertook painstakingly to record the language. The vocabulary of the *linguajem de Calecut* 'the language of Calicut' in Vasco da Gama's journal is the first Western record of an Indian language since the Sanskrit word list recorded by Ctesias of Cnidos in the 5th century BC in the Ἰνδικα, an early Greek description of India. The first Indian language heard by the Portuguese in India and recorded by Vasco da Gama was Malayalam.

Yet another irony soon presented itself. Considering how preoccupied these people were with religion, the Portuguese mariners committed the odd error of mistaking the local Hindu population for Christians, and this misperception persisted for some time. The ornate and colourful Hindu temples reminded them so much of their churches back home that it seemed obvious that the people of Malabar must all be Christians. The Portuguese mistook the Hindu iconography in the temples for the graven images of saints which adorned Christian churches, and they would only much later come to see the Hindus of Kerala as idolaters. In fact, liturgy and ritual were evidently of such paramount importance that this same error was repeated two centuries later, when the rituals, sacred implements and chants of Tibetan monks would convince Portuguese and Italian priests in the Himalayan region that Mahāyāna Buddhism must be a corrupted form of Christianity.

Expansion was driven not just by religious rivalry between Christian and Saracen and by the arrival of the Turks in Europe. As Vasco da Gama announced upon his arrival in India in May 1498, they had also come seeking spices and luxuries from the East. The mediaeval European diet was bland, and discerning palates craved Asian spices. After their first visit of three months, the Portuguese returned with silk, satin, pepper, nutmeg, cloves, ginger and the products of Indian craftsmen. However, even before they reached India, many sailors were suffering from scurvy. The return voyage was even more harsh. On the 20th of April 1499, only 54 seamen of the original crew of 170 returned to Portugal. The others had died, many of scurvy, including the younger Paulo da Gama, who died on the Azores on the return journey.

Despite the hardship and loss of life on this first voyage, many would follow. By rounding the Cape of Good Hope and reaching Asia by sea, Europe had broken into Asian waters that had hitherto been the domain mainly of seafaring Arabian and Indian traders.[55] Portugal established factories in Cochin in 1501, Colombo in 1505, Goa in 1510 and Malacca in 1511, and also sent a first diplomatic mission led by Duarte Fernandes to the Siamese capital at Àyútthàya: อยุธยา in 1511.

On his third voyage to the Malabar coast, Vasco da Gama died at Cochin on Christmas Eve 1524. A fortnight after his death, his successor as governor of India, Dom Henrique de Meneses, set out to subjugate Cannanore or *Kaṇṇūr* കണ്ണൂർ and the whole Malabar coast. Between 1513 and 1547, the Portuguese established garrisoned forts at various places along the coast of the Indian subcontinent, in the Spice Islands and in the Malay archipelago. Finally, in 1542, the first Portuguese seamen made landfall in the fabled land that Marco Polo had called Cipangu,[56] and it is with the arrival of the

55 Alongside the Arabian and Indian maritime traders, the trade by Armenians expanded apace with that of the Europeans. Armenian trade in the Indian Ocean was part of an old and larger Armenian trade network, but the new traders extended their network from Amsterdam to Canton and Manila. An important hub was established in 1606 at New Julfa near Isfahan, populated by refugees from the Araks drainage who had fled both Ottoman persecution and warfare waged by Shāh Abbās I against the Turks from 1603 to 1605 (Denys Lombard et Jean Aubin, eds. 1988. *Marchands et hommes d'affaires asiatiques dans l'océan Indien et la mer de Chine, 13e–20e siècles*. Paris: Éditions de l'École des Hautes Études en Sciences Sociales; Frédéric Mauro. 1990. 'Merchant communities, 1350–1750', pp. 255–286 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press).

56 Burgerbibliothek Bern, Sammlung Bongarsiana Codices, Codex 125: Marco Polo, Jean de Mandeville, Pordenone, Pergament I + 287 Bl., 32.5×23.5 cm, 1401–1450: (f. 3r) « Qu deuife de lifle de fypangu » (f. 74v) « Qu nous deiufe de lifle de Sypangu. Sypangu heft vne

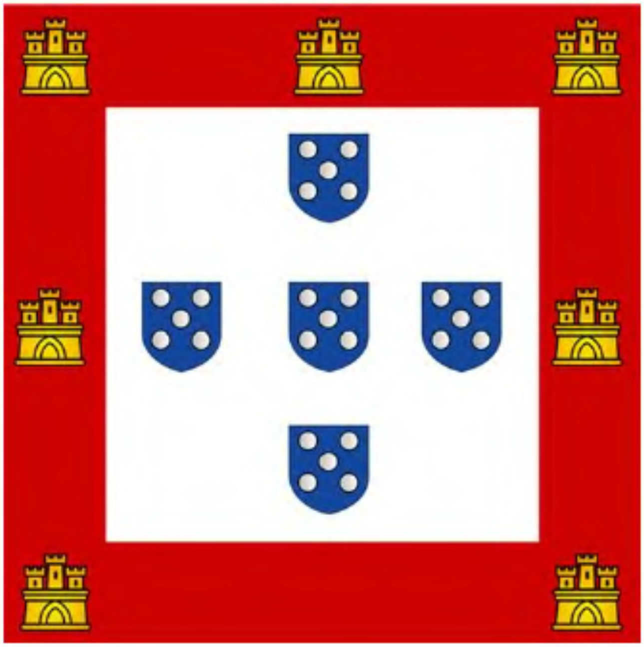

FIGURE 4.13
Flag of Portugal during the time of the great voyages of discovery, as rendered by Nuno Alvares

Portuguese in the Land of the Rising Sun that the saga of the globalisation of tea first began.

Silk and Silver Rather Than Tea

On the 18th of June 1452, pope Nicholas V issued a bull called *Dum Diversas*, which granted Portugal all the lands to be seized from pagans and infidels as well as a mandate to conduct the lucrative slave trade. On the 13th of March 1454, he issued a second papal bull effectively granting to Portugal all of the Orient in perpetuity as the sovereign property of king Afonso V and his successors. A number of the claims in these two bulls were reaffirmed by the bull *Inter Cætera quæ* issued by pope Callixtus III in 1456 and by the bull *Æterni regis* issued by pope Sixtus IV in 1481. Portugal and Spain again attempted to settle the division of the world between them on the 4th of September 1479 by the Treaty of Alcáçovas. Yet these documents did not provide adequate geographical clarity and precision.

On the 4th of May 1493, the Borgia pope Alexander VI therefore pontifically intervened to divide the planet Earth by papal bull between the Castilian crown, to which was granted all newly discovered lands to the west of the Line of Demarcation, and Portugal, which was thenceforth entitled to all the newly discovered lands to the east of this line. This roughly defined longitudinal line ran through the Atlantic Ocean from north to south and was interpreted at the time as running somewhere around what we know today as 35°W and perhaps as far west as 36°W. Since this arrangement basically only entitled Portugal to a narrow sliver of the Brazilian littoral, stretching roughly from Natal to Recife, a new treaty had to be negotiated within a year.

The Treaty of Tordesillas negotiated on the 7th of June 1494 was thought to represent a more equitable way to apportion the planet between these two small but ambitious Iberian countries.

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ifle en levant, qui est en la haufte mer, lonig de terre ferme M et V cens milles, et fi eft mouft grant ifles, et les gens font blans et de mouft belle maniere »; Benedetto (1928: 163–166, Cap. CLX, CLXI; « Ci devise de l'isle de Cipangu. Cipangu est une isle a levant, qui est longie de tere en aut mer MD milles. Elle est mout gradismes ysles. Les jens sunt blances, de beles maineres e biaus. Il sunt ydules e se tienent por elz et ne ont seignorie de nuls autres homes for que d'eles meisme »); Yule and Cordier (1903, II: 253–263; Book III, Ch. II, III); Guignard (1983: 277–283, Kap. CLX, CLXI 'Cipangu').

The new treaty allotted Portugal a larger chunk of Brazil, roughly comprising all the territory east of the longitudinal line running between Belém and São Paolo. In fact, the new line was defined as located 370 leagues to the west of Cape Verde. The length of a Portuguese league was not uniform, as there were several standards in use, and the distance west of Cape Verde could be measured at different latitudes. Consequently in the first half of the 16th century, different geographers put this line anywhere between 42°30′ W and 49°45′ W.

Matters changed again in 1498, when Portugal managed to reach India by circumnavigating Africa. Since the earth is spherical, the Portuguese and the Spaniards inevitably ran into each other as the former moved across the seas eastward and the latter expanded westward. On the 22nd of April 1529, the Treaty of Saragossa[57] was concluded to settle rival claims to the Moluccas and the Philippines. The new line of demarcation in the Orient was drawn 297½ leagues east of the Moluccas, thus according all rights and privileges with respect to Japan to the Portuguese crown. The Spaniards subsequently colonised the Philippines nonetheless, and the modern nation that has grown out of this Spanish colony is named after the Habsburg monarch Philip II (*regnabat* 1556–1598). Yet the most distant land in the Far East was Japan, and the first Europeans to reach Japan were Portuguese.

Japan is mentioned on the earliest maps as Sypangu, Cipangu or Zipangu, which are the various forms of the name preserved in the oldest extant copies of the original manuscript which Marco Polo dictated in a Genoese gaol to a fellow prisoner named Rustichello da Pisa. One year after Marco Polo reached his native Venice in 1295, he was taken captive from aboard a Venetian vessel by the Genoese in a skirmish just outside of the Gulf of Issus between Alexandretta and Adana. After languishing in a Genoese prison for two years, he dictated the account of his travels, and Rustichello wrote down the story in the French language, which he had studied and acquired in his native Pisa. The form Cipangu evidently represents Marco Polo's rendering of the Hokkien name for Japan, *jit-pún-kok* 日本國 [dʑit ˧ pun ˥˧ kɔk ˧˨] 'country of Japan', which Marco Polo heard in Fukien before he left China in 1291.[58]

The first Portuguese to reach Japan arrived there quite by chance in 1542, stranded on the island of Tanegashima 種子島. It came to pass that three Portuguese seamen found themselves in difficult circumstances in the port city of Àyúttháya: อยุธยา, roughly 70 km upriver and north of the centre of today's Bangkok. The erstwhile Thai capital city of Àyúttháya: had been named after the ancient Indian city of Ayodhyā अयोध्या, which is why Thailand is still known in Burmese as Yôdàyâ ယိုးဒယား. At Àyúttháya:, the three Portuguese deserters sought to flee from their superior Diogo de Freitas, and so they boarded a Chinese junk owned by a pirate whose name occurs in the literature both as Wāng Zhí 汪直 and as Wáng Zhí 王直. They set sail for the city of Liampo 寧波 but were thrown off course by a typhoon.[59] The city known in Por-

57 The English name Saragossa is taken from the Portuguese Saragoça, whilst the city is named Zaragoza in Spanish.

58 This identification was first made by Henri Cordier, but later questioned by Paul Pelliot. Henri Cordier. 1895. *L'Extrême-Orient dans l'atlas catalan de Charles V, roi de France*. Paris: Imprimerie Nationale (p. 9); Paul Pelliot. 1959, 1963, 1973. *Notes on Marco Polo: Ouvrage posthume publié sous les auspices de l'Académie des Inscriptions et Belles-Lettres et avec le concours du Centre national de la Recherche scientifique* (three volumes). Paris: Imprimerie Nationale, Librairie Adrien-Maisonneuve (Vol. 1, pp. 608–609).

59 English *typhoon* comes from Cantonese *daai*^{6}*fung*^{1} 大風 [taːi ˨ fʊŋ ˥] 'big wind' (Gustaaf Schlegel. 1896. 'Etymology of the word *taifun*', *T'oung Pao*, 1ère série, VII: 581–585). The Hakka form is *thai-fûng* 大風 [tʰai ˧ fuŋ ˨˦] or [tʰai ˩ fuŋ ˥˧] 'big wind'. The differing tone contours represent the pronunciation of the Hakka dialect of Siyen 四縣 and the Hakka dialect of Hóiliu̍k 海陸 respectively. The Pha̍k-fa-sṳ 白話字 'pure speech transcription' for Hakka was initially developed by missionaries of the *Evangelische Missionsgesellschaft* of Basel in the 19th century and then codified by the Presbyterian church in Shanghai in 1904 (Donald MacIver. 1904. *A Hakka Index to the Chinese-English Dictionary of Herbert A. Giles, LL.D. and to the Syl-*

tuguese as *Liampo* is known in other European languages as *Ningpo*. Whilst the Portuguese adopted the Hokkien name for the city, Lêng-pho 寧波 [liŋ ˨˦ pʰɔ ˦],[60] other Western languages much later adopted the northern Chinese pronunciation *Níngbō*.

An account of their voyage was written by António Galvão (1490–1557), former governor of Ternate in the Moluccas, and then posthumously published in Lisbon in 1563. Galvão named the three Portuguese mariners as António da Mota, Francisco Zeimoto and António Peixoto. In the passage below, Galvão identified Japan with the *Sipangas* islands, known in Europe from the account given by Marco Polo. The name appears as *Zipangu* in the English rendering done by Richard Hakluyt in 1601, which is quoted below, beneath Galvão's original. *Dodia*, the Portuguese rendering of the name of Àyútth† áya: อยุธยา was misprinted as 'Dodra' in Galvão's posthumously printed text, and the error is copied in the English text.[61]

No anno de 542 achandofe Diogo de freytas no Reyno de Syam na cidade Dodra [*recte* Dodia] capitam de hũ nauio, lhe fogiram tres Portuguefes em hũ junco q̃ hia pera a China, chamauãfe Antonio da mota, Francifco zeimoto, & Antonio pexoto. Hindo fe caminho pa tomar porto na cidade de Liampo, q̃ eftá em trinta & tãtos graos daltura, lhe deu tal tormenta aa popa, q̃ os apartou da terra, & em poucos dias ao Leuãte viram hũa ylha em trinta & dous graos, a q̃ chamam os Iapões, que parecem fer aquelas Sipangas de que tanto falam as efcripturas, & fuas riquezas: & affi eftas tambem tem ouro, & muyta prata, & outras riquezas.[62]

Iapan difcouered by chance
In the yeere of our Lord 1542, *one* Diogo de Freitas *being in the realme of* Siam, *and in the citie of* Dodra *as captaine of a fhip, there fled from him three* Portugals *in a* Iunco (*which is a kind of fhip*) *towards* China. *Their names were* Antony de Mota, Francis Zeimoro, *and* Antony Pexoto, *directing their courfe to the citie of* Liampo, *ftanding in* 30. *and odde degrees of latitude. There fell upon their fterne fuch a ftorme, that it let them off the land, and in fewe daies they fawe an Ifland towards the eaft ftanding in* 32. *degrees, which they do name* Iapan, *which feemeth to be the Ifle of* Zipangu *whereof* Paulus Venetus *maketh mention, and of the riches thereof. And this Ifland of* Iapan *hath gold, filver, and other riches.*[63]

labic Dictionary of Chinese of S. Wells Williams, LL.D. Shanghai: American Presbyterian Mission Press; Donald MacIver. 1905. *A Chinese-English Dictionary: Hakka-Dialect as Spoken in Kwang-tung Province.* Shanghai: American Presbyterian Mission Press). Schlegel (1896) dismisses a Hokkien source for the Portuguese word *tufão* 'typhoon'. However, the first syllable in the Portuguese word suggests one of the three pronunciations of Hokkien 大 ⟨ta ~ tuā ~ tāi⟩.

60 The Hokkien tonal contours indicated represent the pronunciation of Amoy 廈門, whereas some of the phonological tones have different phonetic realisations in the dialect of Changchew 漳州 and the dialect of Chinchew 泉州.

61 This typographical error for 'Dodia' was identified by the Jesuit Georg Schurhammer in 1943 (Georg Schurhammer. 1946. 'O descobrimento do Japão pelos Portugueses no ano de 1543', *Anais da Academia Portuguesa de História*, 2.ª série, I: 1–172 [reprinted as 'Kapitel 29: 1543–1943: O descobrimento do Japão pelos Portugueses no ano de 1543', pp. 485–580 in George Schurhammer S.I. 1963. *Gesammelte Studien heraursgegeben zum 80. Geburtstag des Verfassers II* (*Orientalia: Bibliotheca Instituti Historici S.I., Volumen XXI*). Rom: Institutum Historicum S.I., und Lisboa: Centro de Estudos Históricos Ultramarinos (p. 531, footnote 63)]). Not all Siamese toponyms which occur in early Portuguese sources can be so readily identified, and many Thai place names cited by the chronicler Mendes Pinto have not yet been identified; cf. Michael Smithies. 1997. 'The Siam of Mendes Pinto's travels', *Journal of the Siam Society*, 85 (1–2): 59–73.

62 Antonio Galvaõ. 1563. *Tratado. Que compôs o nobre & notauel capitão Antonio Galuão, dos diuerfos & defuayrados caminhos, por onde nos tempos paffados a pimenta & efpecearia veyo da India ás noffas partes, & afsi de todos os defcobrimentos antigos & modernos, que fão feitos ate a era de mil & quinhentos & cincoenta. Com os nomes particulares das peffoas que os fizeram: & em que tempos & as fuas alturas, obra certo muy notavel, e copiofa.* Lisboa: Impreffa em cafa de Ioam da Barreira, impreffor del rey noffo fenhor, na Rua de fã Mamede 15 Dezembro 1563 (ff. 75^{v}–76).

63 Hakluyt's 1601 text introduced a new printing error,

FIGURE 4.14 Pavement mosaic on the *Avenida da Liberdade* in Lisbon, commemorating the Portuguese discovery of America in 1472

A year later, in 1543, a group of Portuguese seamen which probably included António da Mota, Diogo Zeimoto, Francisco Zeimoto, António Peixoto and perhaps also Cristóvão Borralho[64] returned and taught the inhabitants of Tanegashima how to manufacture the harquebus.

The historiographer Jaime Zuzarte Cortesão argues cogently that the culture of secrecy played a role in the dearth of detailed written Portuguese records, but this was not the only factor.[65] The first impromptu visit to Japan by Portuguese sea-

with 'Zipangri' appearing for *Zipangu*, whilst Hakluyt' reproduced the typographical error 'Dodra' for 'Dodia', that first appeared in the posthumous publication of Galvão's original Portuguese text (António Galvão. 1601. *Discoveries of the World, from their firſt originall vnto the yeere of our Lord 1555, Briefly written in the Portugall tongue by Antonie Galvano, Gouernor of Ternate, the chiefe iſland of the Molucos: Corrected, quoted and publiſhed in Engliſh by Richard Hakluyt, ſometimes ſtudent of Chriſtchurch in Oxford*. London: Impenſis G. Biſhop, p. 92).

64 The precise identities of the mariners of the second journey and the details of the first and second Portuguese voyages will have to be reconstructed on the basis of an analytical comparison of the accounts by the chroniclers António Galvão (1490–1557) and Fernão Mendes Pinto (1510–1583) with Japanese sources (*pace* Schurhammer 1946, 1963; *pace* Olof G. Lidin. 2002. *Tanegashima: The Arrival of Europe in Japan*. Copenhagen: The Nordic Institute of Asian Studies; cf. Pedro Lage Reis Correia. 2004. 'Review essay of Murai Shōsuke (2002) and Olof G. Lidin (2002)', *Bulletin of Portuguese Japanese Studies*, 8: 93–106).

65 Jaime Zuzarte Cortesão. 1975–1976. *Os descobrimentos portugueses* [six volumes]. Lisboa: Livros Horizonte.

men was very much a fluke of destiny. Even on regular voyages, survival was paramount. On the diminutive and frail early ocean-going vessels on which Portuguese seafarers sailed the seas, fastidious maritime bookkeeping could not always have been the highest priority. Then too, any records that may ever have been committed to writing would also have had to survive the ravages of time.

In the 1570s, the historian Gaspar Frutuoso recorded that the mariner João Vaz Corte Real crossed the North Atlantic in 1472 and discovered the *Terra Nova dos Bacalhaus* 'new land of codfish', which, judging from the particulars of the voyage, appears likely to have been Newfoundland. This early voyage to Newfoundland would put the Portuguese discovery of the New World two decades ahead of the first sea voyage to the Bahamas led by the Genoese mariner Christopher Colombus in 1492, financed by the Spanish crown.[66] Dried and salted cod from the waters off of Newfoundland has ever since featured as an iconic item in Portuguese cuisine. The likelihood that João Vaz Corte Real reached America in 1472 is commemorated in the mosaic inscription *Descoberta da America 1472* 'the discovery of America in 1472' on the Avenida da Liberdade in the centre of Lisbon.

In the Far East, the Portuguese first reached Canton in 1515 and Amoy in 1516. At this time, the Portuguese king Manuel I sent an embassy to China, and the fleet headed by Fernão Pires de Andrade arrived in Canton in 1517. Thence a Portuguese embassy led by Tomé Pires in 1520 went to the court of the Zhèngdé 正德 emperor (*imperabat* 1505–1521). The Portuguese trade with the ports at Amoy 廈門 and Liampo 寧波 was disallowed for a spate from 1548 due to unbecoming comportment. The Portuguese established a presence on the Cantonese coast near Macau in 1555. In 1557, the Míng emperor Jiājìng 嘉靖 (*imperabat* 1521–1567) leased Macau to the Portuguese, who managed to consolidate their position there firmly by 1563 so that Macau remained Portuguese territory until the 20th of December 1999, when Macau was handed over to the People's Republic of China. Portuguese vessels were the only Occidental vessels in the Orient until 1596, when the Dutch first entered East Asian waters.

Philip II acquired the Portuguese crown for the Habsburg dynasty in 1580, and the thrones of Portugal and Spain were united for sixty years until the restoration of the Portuguese monarchy under the house of Bragança in 1640. During this period, the Portuguese in Macau retained the monopoly on the trade with Japan. The Portuguese trade with Japan was based primarily on the two commodities of Japanese silver and Chinese silk. Despite the fascination with tea and the tea ritual and the meticulous documentation of Japanese tea culture by the Portuguese Jesuits, tea is conspicuous by its absence in the Portuguese trade records.

Japanese and Fukienese pirates ravaged the Chinese coastline and disrupted shipping in the East China Sea. The pirates were called *wōkòu* 倭寇 'dwarf bandits' and are referred to as *wakõ* in Portuguese sources. In response to this threat, emperor Jiājìng prohibited Chinese merchants from engaging in trade with Japan. So the Portuguese entered a highly lucrative market where they had no competition until the Dutch established their *factorij* on the island of Hirado 平戸 in 1609 under Jacob Speckx.[67] In 1613, the first

66 Gaspar Frutuoso [1522–1591]. 1998. *Saudades da terra: livro VI, com palavras prévias de João Bernardo de Oliveira Rodrigues.* Ponta Delgada: Instituto Cultural de Ponta Delgada, esp. livro 6, capítulo 9; cf. also Kirsten Andresen Seaver. 1996. *The Frozen Echo: Greenland and the Exploration of North America ca. AD 1000–1500*. Stanford: Stanford University Press.

67 Jacob Speckx or Jacques Specx served as chief trader or *opperhoofd* at Hirado until August 1612. He had previously been selected by admiral Wybrandt van Waerwijck in 1604 to be sent as an emissary of the Dutch East India Company to China. It had been arranged that Speckx would accompany the embassy to China sent by the Siamese court at Àyútthάya: อยุธยา. However, Speckx never went because of the untimely death of king Nárɛsuǎ:n นเรศวร. Later in his career, from 1629 to 1632, Speckx ultimately served as the governor general of the Dutch East Indies at Batavia (Commelin 1646, Vol. 1, last instalment p. 73; Jonkheer mr. Johan Karel Jakob de Jonge, red. 1865. *De Opkomst van het*

FIGURE 4.15
The Portuguese word *azulejo* for ceramic tile contains the word *azul* 'blue', but the word comes from the Arabic term الزَّلِيج *al-zalaij* 'glazed tile' and represents a continuation of the Moorish mosaic tradition on the Iberian peninsula, which emulated the even older Roman tradition. The Portuguese preference for blue and white therefore antedates the 16th century trade in *kraak* porcelain from China on carracks, such as the vessel depicted in this *azulejo*, that appeared on this once popular Portuguese picture postcard. Even today, *azulejos* remain a salient feature of Portuguese architecture in Macau, Goa, Brazil and other former Portuguese strongholds.

British ship, the *Clove* under captain John Saris, reached Hirado, where a British trading post operated under Richard Cox or Cocks, but the British were soon compelled to withdraw in 1623.

In the first half of 16th century, the Portuguese paid for the spices and silks of the Orient with copper and silver from the mines in northern Europe. From 1501, vessels sailed between Lisbon and Antwerp to exchange spices for bullion,[68] with three quarters of the cargo of returning Portuguese carracks sometimes consisting of just pepper alone.[69] Then Portugal discovered and tapped into the Japanese silver trade, where a glut of silver enabled the obtention of silver at European prices. The Chinese hunger for silver, which they valued as much as gold, was insatiable. New silvers mines such as the large one at Iwami 石見 created a glut in the Japanese silver market. Consequently, the relative value of gold and silver in Japan approached the European ratio. The Portuguese earned hoards of gold through their trade in cheap silver and dear silver between Japan and China. At the same time, the Japanese were willing to pay dearly for Chinese silk, which was much finer than Japanese silk.

Nederlandsch gezag in Oost-Indië (1595–1610): Verzameling van onuitgegeven stukken uit het Oud-Koloniaal Archief. Derde Deel. 's Gravenhage: Martinus Nijhoff, blz. 25).

68 Herman van der Wee. 1990. 'Structural changes in European long-distance trade, and particularly the re-export trade from south to north, 1350–1750', pp. 14–33 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

69 Niels Steensgaard. 1990. 'The growth and composition of the long-distance trade of England and the Dutch republic before 1750', pp. 102–152 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

FIGURE 4.16
Portuguese carracks, a galleon, galleys and a caravel under João de Castro en route to Suez in 1541, depicted here in the *aguada do Xeque* 'bay of the sheikh شيخ' near Sawakin سواكن in what today is Sudan, from the *Tábuas dos Roteiros da Índia, Roteiro do Mar Roxo*, kept at the University of Coimbra

The Spaniards first began to trade with China from 1571 through the intermediary of Chinese junks which sailed to Manila. Later the Spanish did not attempt to muscle their way into the Portuguese trade with Japan because the Spanish were already using Manila as a relay station for the trade in silk and silver between New Spain and Fukien. The Spanish had access to greater silver reserves in the regions that today are known as Mexico and Peru than what was available from Japan. Moreover, the relations between the Spaniards and the Japanese were bedevilled with mutual mistrust.[70] The Portuguese were forced out of the silver trade a few decades after the advent of the Dutch in Japan in 1600. The Dutch were then able to trade Japanese silver for spices, tea and silk. At the same time, the global flow of silver and gold bullion from the Americas also began to fuel the Asian trade in tea and spice, as it would for centuries. The principal source lay in New Spain, whence the bullion went to Manila and to Europe, though a dearth of surviving detailed records hampers quantitative historical research.[71]

Uma chávena de chá

The Portuguese word *chá* 'tea' was taken directly from Japanese *cha* 茶, and the Portuguese word *chávena* 'teacup' was modified from Japanese *chawan* 茶碗 'tea bowl'. The oldest surviving Western accounts of Japanese tea are the descriptions provided by the Portuguese Jesuit Luís d'Almeida. Born in Lisbon in 1525 to a family of Jewish converts, d'Almeida became a surgeon at the Hospital Real de Todos os Santos, where he received his surgeon's licence in 1546 after two years of training. He travelled to Goa and Macao as a merchant, and in 1552 he reached Kyūshū. Later at Yamaguchi he

70 Boxer (1959: 2–4).

71 Ward Barrett. 1990. 'World bullion flows, 1450–1800',

met Cosme de Torres of Valencia, the successor of Francis Xavier as head of the Jesuit mission in Japan.

On his second visit to Japan in 1555, d'Almeida became a Jesuit brother, and in 1566 he built a hospital at Funai 府内 with the permission of *daimyō* Ōtomo Yoshishige 大友義鎮. The *daimyō* later became known to the Portuguese as Dom Francisco of Bungo 豊後 in 1578, when he was baptised by Francisco Cabral. In 1561, d'Almeida conducted missionary activity in Hakata 博多, Hirado 平戸 and Kagoshima 鹿児島, and in 1562 he negotiated mooring rights for the Portuguese at Yokoseura 横瀬浦, which today is part of the city of Sakai 堺. In 1563, d'Almeida established churches in Shimabara 島原 and Kuchinotsu 口之津, and in the following year he travelled through the 関西 Kansai region. He was annointed to the priesthood at Macao in 1580, and he died in 1583 at Kawachiura 河内浦, which is now part of the city of Amakusa 天草.

In a letter which d'Almeida wrote from the Japanese province of Bungo[72] to his Jesuit brothers in India, dated the 14th of October 1564,[73] he provided the first Western description of Japanese powdered green tea or *matcha* 抹茶.

> He coſtume antre os Iapoẽs nobres e ricos, quando tem algũ hoſpede, que ſeja peſſoa de obrigação, por deſpedida moſtrarem-lhe ſuas peças ricas em final de amor: as quaes ſão todos os petrechos com que bebem hũa certa erua moida, q̃ a quem a coſtuma beber he goſtoſa, q̃ ſe chama Chà. A maneira de a beberem, he deitarem cãtidade de mea caſca de noz dos pos deſta erua muida em hũa porcelana, & desfeitos com agoa muito quente os beberẽ, & pera iſto tem hũas panellas de ferro muito antiquiſsimas, & aſsi as porcelanas, & vaſilha em que deitão a agoa com q̃ enxaguão a porcelana, & hũa trẽpemzinha, em que poẽ a cobertoura da panela de ferro, por ſe não por no chão ſobre as eſteiras. A vaſilha onde tem os pos do Chá, a colher com que os tirão, o coco com q̃ tirão a agoa quẽte da panela, e o fogaõ, todas eſtas peças são a pedraria do Iapaõ, da propria maneira q̃ entre nos ſe tẽ aneis, joyas, & colares de muito ricos rubis, & diamantes. E ha lapidairos diſto, que conhecẽ as taes peças, & ſaõ corretores pera ſe comprarẽ & venderẽ. Aſsi que pera conuidarem com a tal erua, da qual ha muito boa, & val o arratel a noue, e dez cruzados, & amoſtrarẽ as taes peças, ſe da primeiro hũ banquete, ſegũndo a poſsibilidade de cadahũ.[74]

It is the custom amongst the noble and wealthy Japanese, when they receive a visitor of any consequence, that upon his parting they will show him their most precious pieces as a final show of affection: these being all vessels with which they drink a certain finely ground herb, which they have the custom of drinking and which is delicious and which is called *Chà*. The way to drink it is to place half a nutshell of the powder of this finely ground herb in a porcelain cup and then mix it up with very hot water and then drink it. For this purpose they have very old iron pots as well as porcelain cups, as well as a canister in which they put the water with which they rinse the porcelain cups, and a small rack on which they put the lid of the iron pot so that it does not have to be placed on the mats on the floor. The canister in which they keep the tea powder, the spoon with which they scoop it out, the ladle with which they scoop the hot water from the pot, and the stove, all of these items are the jewellery of Japan, in the same way as we keep rings, gems and neck-

pp. 224–254 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

72 The historical province of Bungo 豊後国 was located in the northeastern corner of Kyūshū in the area that corresponds roughly to today's Ōita prefecture.

73 Garcia, ed. (1997, 1° tomo, f. 154v): 'Carta di irmão Luis Dalmeida, pera os irmãos da Companhia de IESV da India, eſcrita em Búngo, a 14 de Outubro, de 1564'.

74 Garcia, ed. (1997, 1° tomo, f. 163).

FIGURE 4.17 A cast iron kettle or *tetsubin* 鉄瓶 hanging above a traditional Japanese sunken hearth or *irori* 囲炉裏, as photographed by Tanaka Jūyō 田中十洋 at the Chiba Prefectural Open Air Museum

laces of very precious rubies and diamonds. There are specialists analogous to gemcutters who know and appraise such pieces, and there are brokers through whom they buy and sell them. Moreover, in order to regale guests with this herb, a pound of good quality costs between nine to ten cruzados, and they put on display such fine pieces when they first put on a banquet, each person according to his means.

In this report about tea, d'Almeida was manifestly describing *matcha* 抹茶 or Japanese powdered green tea and giving a sketchy account of its preparation. He also observed the high price of fine *matcha* and the value which the Japanese attributed to their porcelain vessels and the cast iron kettles with pouring spout, a lid and a handle over the top that are called *tetsubin* 鉄瓶. In the same letter, d'Almeida reported that one finely

crafted *trempenzinha*, or iron rack on which to place the lid of the tea kettle, cost as much as 1,030 cruzados. He also mentioned that a certain man in Miyako owned *hũa vaſilha de barro* 'an earthenware *matcha* caddy' reputed to be worth the incredible sum of 30,000 cruzados. This was well above the normal price range for precious *matcha* caddies, which d'Almeida reported were already exorbitantly priced at anywhere from 3,000 to 5,000 cruzados.[75]

In a letter which d'Almeida wrote the following year, towards the end of 1565,[76] he provided quite a similar account. This second letter was published in 1588 in a Latin translation in the city of Florence by the Italian humanist Giovanni Pietro Maffei, along with other correspondence by Jesuits in the Indies and the Far East. In the volume, Luís d'Almeida appears as Ludovicus Almeida. The Japanese name for tea is recorded in this Florentine publication not as *Chà*, but in the slightly more italianate spelling *Chià*.

> Ritus eſt Iaponiorum, qui quidẽ nobilitate ac diuitijs præſtant, hoſpitibus paulo honoratioribus in digreſſu beneuolentię cauſſa præbere ſpectanda, quæ apud ſeſe pretioſiſsima ſunt. id eſt omne inſtrumentum neceſſarium ad potionem herbæ cuiuſdam in pulucrem redactæ, ſuauem guſtu, nomine Chià. Eſt autem modus potionis eiuſmodi. pulueris eius, quantum vno iuglandis putamine continetur, conijciunt in fictile vas, ex eorum genere, quæ porcellana vulgus appelat. Inde calenti admodum aqua dilutum ebibunt. Habent autem in eos vſus ollam antiquiſsimi operis ferream, figlinum, poculum, cochlearia, infundibulum eluendo figlino, tripodem, foculum denique potioni calefaciendæ. Hæc igitur Iaponiorum eſt gaza, nec ſane apud eos minoris, quàm apud noſtros homines annuli, gemmæ, & è carbunculis atque adamante monilia. Sunt etiam periti earum rerum æſtimatores atque proxenetæ. Puluis autem ipſe magno admodum pretio venit, eiuſque propinationem ſolennes præcedunt epulæ. Quinetiam certæ ædium partes dicantur hiſce conuiuijs, quarum eſt mira mundities, nec in alios patent vſus.[77]

> It is a custom of the Japanese, who are steeped in rank and riches, to regale their honoured guests using the finest accoutrements, which are among the most expensive, comprising every instrument required to serve the beverage brewed from the sweet tasting herb called *Chià*. As regards this type of beverage, as much of its powder as would fit into a walnut shell is added to a ceramic vessel, made of what is commonly called porcelain. They drink this hot water in a much diluted form. They serve the beverage using the most antique ceramic vessels, cups, spoons, a teapot with a spout, in which the beverage is heated on a tripod with firewood underneath. These articles are the treasures of Japan, and amongst the Japanese these items are valued no less than we value gem-studded rings and diamond necklaces. There are experts and adepts in preparing and serving this drink. However, the herbal dust itself comes at quite a high price, and they serve the beverage prepared from this powder at solemn feasts. Furthermore, certain spaces are especially reserved for these elegant banquets and are used for no other purpose.[78]

75 Garcia, ed. (1997, 1° tomo, f. 163v).

76 'in septimo Cal. Nouemb MDLXV', to be precise, according to the Julian calendar then in use.

77 Maffei (1588: 424–425).

78 In 1614, in a passage in which the English word *furniture* is used in a meaning closer to that of French *fourniture* than to its present English meaning, Samuel Purchas quoted Luís d'Almeida in English translation as follows: 'They vſed much the powder of a certaine herb called Chia, of which they put as much as a Walnutſhell may containe, into a diſh of Porcelaine, and drinke it with hot water. At the departure of friends they will ſhew all the moſt precious houſhold furniture, the beſt whereof they employ about the heating water, or other vſes for this herbe, which is of precious account with them' (Samuel Purchas. 1614. *Pvrchas his Pilgrimage. or Relations of the World and the Religions Observed in all*

FIGURE 4.18
A modern cast iron kettle manufactured by Nanbu Tetsubin 南部鉄瓶

The first reports by d'Almeida were followed by the accounts of a far more talented and linguistically endowed confrère.

The Tea Ceremony, Oolong Tea and Saying Mass

More prominent mention of tea is preserved in the writings of the prolific Jesuit writer Luís Fróis, born in 1532 in Lisbon and raised at the court of João III (*regnabat* 1521–1557). Inspired by Simão Rodrigues de Azevedo, a companion to Ignatius Loyola and one of the founders of the Jesuit order, Luís Fróis embarked for the East as one of a group of ten young Jesuits and arrived at Goa in October 1548 at the age of sixteen. In 1554, Melchior Nunes Barreto selected Fróis, then 22 years old, as a travelling companion to Macau, where Nunes Barreto left Fróis to serve as the principal of a school from 1555 to 1557. During this period, Fróis also served as a postal copyist whose duty it was to make copies of letters from Japan before they were sent onward to Goa and Portugal. Many of the original writings of Fróis and his confrères did not survive the insensate depravations of history, but in his capacity of postal copyist his surviving writings contain references to both Japanese tea as well as to the tea ceremony *chanoyu* from at least three years before he ever set foot in Japan himself.[79]

In 1558, he returned to Goa, where he was ordained in 1561. Later Fróis sailed for Japan and made landfall at Yokoseura 横瀬浦 on the 6th of July 1563,[80] and in that same year he already mentioned tea from his own first-hand observation.

> Aceitou ella de boa vontade o ardil e, mostrando-se familiar e amiga de Dom Jião, o convidou com huma perçolana de chá …[81]

> She willingly accepted the ruse and, being familiar with and a friend of Dom Jião, she invited him to a cup of tea …

Ages and Places difcouered, from the Creation vnto this Present. London: Printed by William Stansby for Henrie Fetherftone (The fift Booke, Chap. 15, p. 524). The passage in question does not occur in the earlier 1613 editions).

79 José [i.e. Josef Franz] Wicki. 1976. *P. Luís Fróis, S.J. Historia de Japam. Edição anotada por José Wicki S.J., I Volume (1549–1564)*. Lisboa: Biblioteca Nacional de Lisboa (e.g. Vol. 1, p. 172).

80 Wicki (1976, Vol. 1, p. 43 et seq.).

81 Wicki (1976, Vol. 1, p. 349).

FIGURE 4.19
The signature of Luís Fróis, containing the characteristic flourish ⁜ used by some Jesuits of the period to adorn their signatures

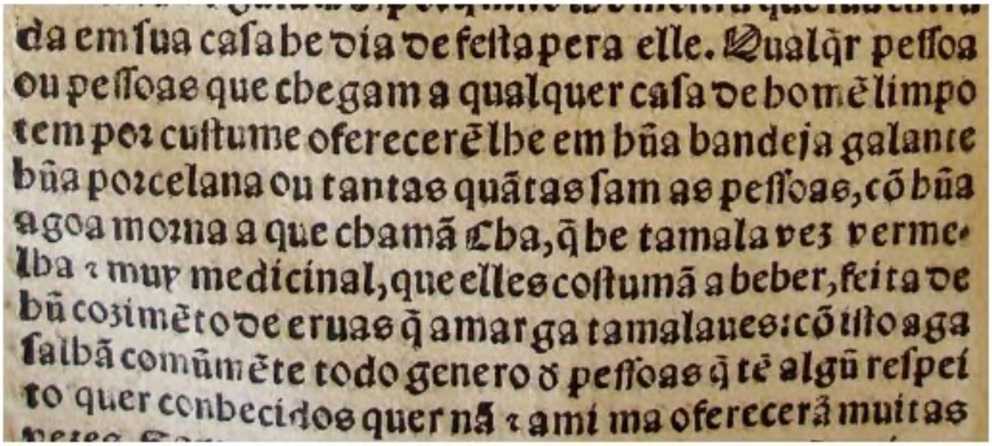

da em ſua caſa he dia de feſta pera elle. Qualqr peſſoa
ou peſſoas que chegam a qualquer caſa de homẽ limpo
tem por cuſtume oferecerẽlhe em hũa bandeja galante
hũa porcelana ou tantas quãtas ſam as peſſoas, cõ hũa
agoa morna a que chamã Cha, q̃ he tamala vez verme-
lha e muy medicinal, que elles coſtumã a beber, feita de
hũ cozimẽto de eruas q̃ amarga tamalaues: cõ iſto aga
ſalhã comũmẽte todo genero d peſſoas q̃ tẽ algũ reſpei
to quer conhecidos quer nã e a mi ma oferecerã muitas

FIGURE 4.20
Mention of *Cha* 'tea' by Gaspar da Cruz, which was probably Bohea tea

Fróis quickly acquired a command of the Japanese language, and in 1572 he began to serve as the interpreter for Francisco Cabral, the Jesuit superior at Miyako. Fróis was for many years stationed at Miyako, which he used as a base to travel in Japan.

From 1580 to 1582, Fróis served as the Japanese interpreter for the *Visitador* Alexandro Valignano, and from 1581 to 1590 Fróis served as the interpreter for the vice-provincial Gaspar Coelho. In May 1586, Gaspar Coelho and Luís Fróis had an audience with Toyotomi Hideyoshi 豊臣秀吉. The delicate negotiations did not meet with the success that they had hoped for, and in 1587 Toyotomi Hideyoshi issued an edict forbidding the Christian religion and expelling the Jesuits. When his fellow Jesuits were exiled from Japan, Luís Fróis did not leave Japan, however, but instead retired to the island of Takushima 度島 near Nagasaki 長崎. In 1592, Alexandro Valignano took Fróis back with him to Macau, where Fróis lived for three years. When Fróis fell ill in Macao, he asked to return to Japan in order to spend his last days there. He died on the 8th of July 1597 at Nagasaki.

Meanwhile, before Fróis' later work on Japan was completed and disseminated, the next mention of tea in a Western source is from China and was recorded in 1569 by the Dominican friar Gaspar da Cruz of Évora in his treatise on commodities from China.[82] Gaspar da Cruz was in his twenties when he embarked for India in 1548. He returned to Portugal in 1565. Most of his years in Asia were spent at various places on the Indian Subcontinent and at Malacca.

Between 1556 and 1557, he spent just a few months in China. Most of this time was spent on Lampacau island in the Pearl River delta, some

82 Gaspar da Cruz. 1569. *Tractado em que ſe cõtam muito por eſtẽſo as couſas da China, cõ ſuas particularidades, et aſſi do reyno d'Ormuz*. Evora: Andre de Burgos.

FIGURE 4.21
Japanese early 17th century lacquer on wood pyx with inlaid mother of pearl and the Jesuit monogram IHS, an abbreviation for *Iesus Hominum Salvator* 'Jesus the saviour of men', although some 17th century sources decrypt the abbreviation as *In hoc signo vinces* 'In this symbol [i.e. the holy cross] you will be victorious', top view, reproduced from Kobayashi and Matsunaga (2013: 90)

15 km north of São João island. During this time, he also visited the city of Canton. São João was one of Portugal's first trading posts along the Chinese coast, and St. Francis Xavier died on the island in 1552. When permission was granted to the Portuguese in 1557 to establish a permanent trading post at Macau, São João was eclipsed in importance. The Portuguese name of the island was sinicised to give Cantonese *soeng^{5}cyun^{1}* 上川 [sœːŋ ˩˧ tsʰyːn ˥], as the island is locally known today.

Unlike the powdered green *matcha* described by Luís d'Almeida and Luís Fróis in Japan, the tea described by Gaspar da Cruz was evidently a dark variety of oolong leaf tea, which he drank in the Pearl River delta and at Canton. Many of the darker semi-fermented Bohea teas yield a russet or even tawny infusion. Here Gaspar da Cruz must have heard the Cantonese form *caa^{4}* 茶 [tsʰaː ˨˩], in the low falling fourth tone. To Portuguese ears the Cantonese name for tea would have sounded much the same as the Japanese form *cha*, which da Cruz must have heard used by his Jesuit confrères.

> Qualq̃r peſſoa ou peſſoas que chegam a qualquer caſa de homẽ limpo tem por cuſtume oferecerẽlhe em hũa bandeja galante hũa porcelana ou tantas quãtas ſam as peſſoas, cõ hũa agoa morna a que chamã Cha, q̃he tamalavez vermelha ⁊ muy medicinal, que elles coſtumã a beber, feita de hũ cozimẽto de eruas q̃ amarga tamalaues …[83]
>
> Whenever a person or persons come to the house of a man of standing, they have the custom of offering them a lovely tray and a porcelain cup each for as many as there are visitors, with a warm beverage that they call *cha*, which is reddish and medicinal and which they are in the habit of drinking, steeped from herbs that are somewhat bitter.

Meanwhile, tea continued to feature as one of the topics in the writings of Fróis. In 1569, the same

83 da Cruz (1569, xiii: 80).

FIGURE 4.22
Lacquer on wood pyx with inlaid mother of pearl, side view

year as the report from Canton by Gaspar da Cruz, Fróis described the Japanese tea room as a place of cleanliness and recommended that this be the place where mass should be said and where Christians should be received by the Jesuits:

> E para mais moſtrar ao Padre ſeo contentamento e alegria, o agazalhou na ſua camara de chanoyú, couza que os chriſtãos e gentios muito eſtimão por ſer a limpeza daquelle logar ſua recreação na terra, e alli ſe dizia miſſa e ſe ajuntavão os chriſtãos.[84]

> And all the more to show to the Father his contentment and joy, he sheltered him in his chamber of *chanoyu*, that which the Christians and Gentiles cherish highly in order to have their recreation on earth in the cleanliness of that place, and this is where the mass would be said and the Christians would congregate.

Because of the solemnity of the Japanese ritual, the tea ceremony presented the Jesuits with what they assessed to be the most fitting native cultural vector that would be conducive to the dissemination of Christian teachings and liturgy.[85]

Fróis quickly began recording the ecclesiastical history of Japan in order to document the spread of the Christian faith in the archipelago. One of the initial instalments in his voluminous *Historia de Japam* was a treatise …

84 José [i.e. Josef Franz] Wicki. 1981. *P. Luís Fróis, S.J. Historia de Japam. Edição anotada por José Wicki S.J., II Volume (1565–1578)*. Lisboa: Biblioteca Nacional de Lisboa (Vol. 2, p. 265).

85 See also the discussion in: Ichizō Kobayashi and Yasuzaemon Matsunaga. 2013. *Companionship Record of Tea Ceremony—Noted Article Collection* 茶の湯交遊録　小林一三と松永安左エ門　逸翁と耳庵のコレクション. Fukuoka: Hankyū Cultural Foundation and Fukuoka City Art Institute.

FIGURE 4.23
After the *bodhisattva* Avalokiteśvara अवलोकितेश्वर had over time been feminised and transformed into the goddess Guānyīn 觀音 in China, his or her Japanese *avatār*, Kannon 観音, was ingeniously co-opted by the Portuguese Jesuits in the late 16th century under the guise of *Mariya Kannon* マリア観音 to serve as Maria, the mother of Jesus. This statue in *blanc de Chine* or Tek-hòe 德化 porcelain (Mandarin *Déhuà*) is one of the oldest in this once prolific genre and accordingly deemed to be a National Treasure, Tōkyō National Museum.

> em que ſe trata do clima, qualidades e coſtumes de Japão, da origem de ſeos ideols, culto a adoração, do numero que tem, das ceitas e openioens que tem

> dealing with the climate, qualities and customs of Japan, on the origin of their idols, religion and worship, of their number and of their sects and the opinions which they hold

Like many of Fróis' earlier writings, this treatise too was unfortunately lost. Only its table of contents or *taboada das couzas* remains. Chapter 12 dealt with:

> De donde tiverão sua origem as peças de chanoyu, e do valor e estima dellas[86]

> Whence the pieces used in the tea ceremony have their origin, and their price and value

More Reports of the Tea Ceremony

Alexandro Valignano was born on the 7th of February 1539 at Chieti in Abruzzo in the kingdom of Naples. He first boarded a carrack in Lisbon bound for Goa in 1574 along with 40 missionaries. After three years in India, Valignano sailed to Malacca in 1577, to Macau in 1578 and to Japan in 1579. Valignano visited Japan three times in the official capacity of *Visitador* from 1579 to 1582, from 1590 to 1592 and again from 1598 to 1603. Already during his first sojourn, he prescribed to the Jesuits how they should employ and exploit tea regulations for the saying of mass.

86 Wicki (1976, Vol. 1, pp. 11–13).

FIGURE 4.24
This *Mariya Kannon* マリア観音 statue, fired in the Tek-hòe 德化 kilns in Fukien in the 17th century, was seized at Urakami 浦上 in Nagasaki prefecture in 1856 and first kept at the office of the Nagasaki magistrate, now at the Tōkyō National Museum. Just as the Jesuits recruited Kannon 観音 to serve as Maria, they at once recognised the tea ceremony to be a serene and spiritual ritual, which they highly appreciated and exploited as the most suitable venue for saying mass.

During his first sojourn, Valignano visited the *daimyō* Oda Nobunaga 織田信長 (1534–1582) in March 1581. The Jesuit was accompanied by a tall slender black slave from Mozambique who was in his twenties. Nobunaga was impressed by the youth's perfect physique and his skin colour. The *daimyō* attempted in vain to have the colour washed off in order to ascertain whether the young man's body had been painted with ink. Nobunaga fancied the African youth and, very much in in the same spirit as his insatiable penchant for acquiring *meibutsu* 名物 or artisanal treasures of a particular geographical provenance, he requested that Valignano give him the young man. Nobunaga named the youth Yasuke 弥助. The African fought in defence of Nobunaga at Honnō 本能 temple the following year, survived the defeat and conflagration, and surrendered to the victors. His life was spared, but his subsequent fate went unrecorded.

Several months before the violent demise of the *daimyō*, Valignano organised the first embassy from Japan to the West in 1582. It was his intent

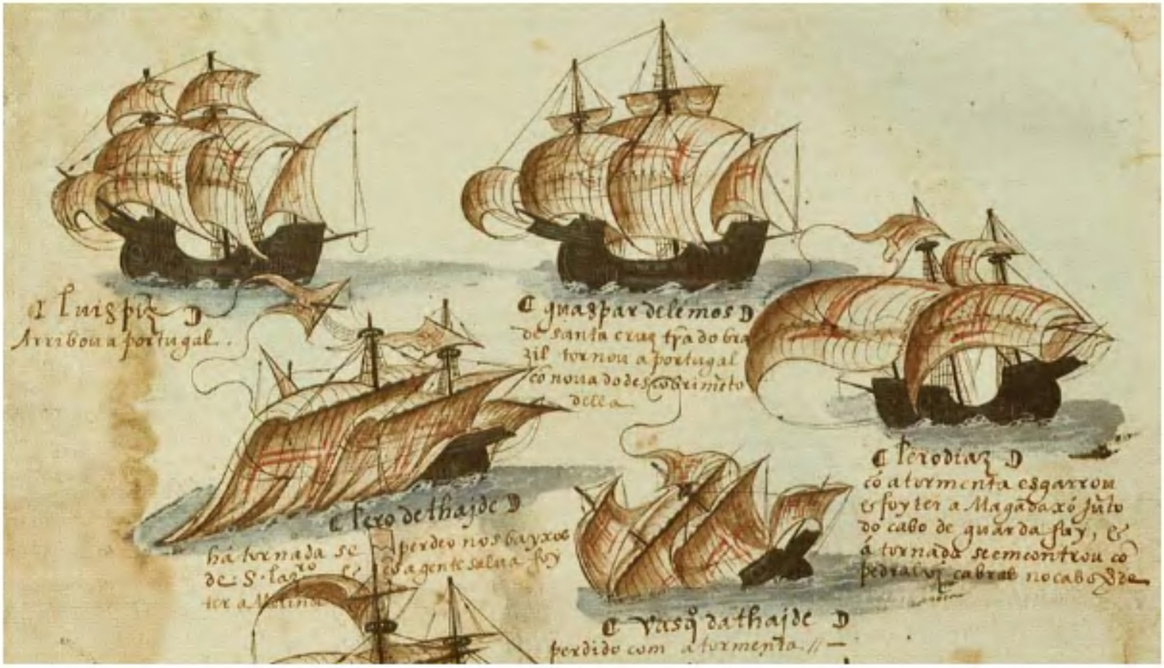


FIGURE 4.25 Portuguese carracks in the fleet of Pedro Álvares Cabral, which reached Brazil in April 1500, in a detail from the *Memória das Armadas que de Portugal passaram à Índia* (ca. 1568), showing most vessels hale and afloat but also a couple of wrecked ships, Biblioteca Nacional, Lisbon

to accompany the four young Japanese noblemen who had been appointed as emissaries to Europe, but in India Valignano received papers announcing his appointment as provincial of Goa, where he served until 1587. He sailed to Macau in 1588 and then returned to Japan in 1590. After two years in Japan, he returned to Macau, whence he visited Japan a third and last time from 1598 to 1603. Valignano died in Macau on the 20th of January 1606.

In or before the year 1580, Alexandro Valignano recorded that the term *yu* 湯 literally denoted the hot water with which the tea was prepared. He wrote that metonymically the term *cha no yu* 茶の湯 was used to designate the room where the tea ceremony was practised.

> Para lo qual es de ſaber que acoſtumbran univerſalmente en todo Japón uſar de una bevida hecha de agua caliente y de unos polvos de una hyerva, que llaman chàa, que entre ellos es tenida en grande cuenta, y todos los ſeñores tienen en ſus caſas un lugar particular donde hazen eſta bebida; y porque el agua caliente en Japón ſe llama yu, y eſta hyerva chàa, llamaron el lugar para eſto deputado, chanoyù, que es la cosa más eſtimada y venerada que hay en Japón, tanto que los principales ſeñores ſe enſeñan muy de propóſito a hazer eſte brebaje, el qual a las vezes hazen de ſu mano para moſtrar grande amor y hacer mucha fieſta a ſus huéſpedes.[87]

For it should be known that they are universally in the habit throughout Japan of using a beverage made of hot water and a certain powder of a herb that they call *chàa*, which amongst them is held in high regard, and all gentlemen maintain in their houses a particular room where

87 Wicki (1944: 147); cf. Josef Franz Schütte, S.J. 1951, 1958. *Valignanos Missionsgrundsätze für Japan* (two volumes). Roma: Edizioni di Storia e Letteratura; José Luis Álvarez-Taladriz. 1954. *Alejandro Valignano S.I. Sumario de las Cosas de Japon (1583) Adiciones del Sumario de Japon (1592)* (Monumenta Nipponica Monograph No. 9). Tokyo: Sophia University.

FIGURE 4.26
Portrait of Oda Nobunaga 織田信長 dating from 1583 by Kanō Motohide 狩野元秀 (1551–1601), kept at the Historiographical Institute of the University of Tōkyō

they prepare this drink, and because hot water is called *yu* in Japan, and this herb *chàa*, they call the room designated for this purpose *chanoyù*, which is the most valued and respected thing which there is in Japan, because gentlemen get themselves well trained in just how to prepare this beverage, which they often prepare with their own hands to entertain and show their great love to their guests.

In 1583, during his first year as provincial in Goa, Valignano mentioned tea and its importance in a summary of the cultural practices which he had observed during his first sojourn in Japan.

> Entre otras cofas de que grandecemente fe huelgan los japones y de que hacen grande eftima y caudal es una bebida de agua caliente con los polvos de una yerva medicinal y eftomacal que llaman cha, afí por el provecho que ella, como también porque ab antico entre elos es cofa mu eftimada con que mueftran mucha familiaridad y benevolencia a los huéfpedes.[88]

> Among other things that the Japanese would greatly enjoy and highly value and cherish is a drink of hot water with the powder of a medicinal and gastric herb which they called *cha*, both for the benefit that it confers as well as because it is the thing which amongst them has from earliest times been the most highly esteemed item with which to regale and show good hospitality to one's guests.

In his writings, Valignano adopted Fróis' idea of exploiting the tea ceremony and its venue as the ideal place to say mass and spread their faith.

> Affi mefmo, fe há de procurar que as cafas tenham fua portaria, chanoyu (pos de erva que botan en la aguoa que beben) e zaxiquis todos accomodados à chara japão, da maneira que fe dirá tratando do modo que fe há de ter em fafer as cafas, porque, por não ftarem os zaxiquis acomodados à chara japão, fe fazem muitas indignidades e defcortefias, affi aos hofpedes que fe recebem como aos mefmos Padres.[89]

> Similarly, if the houses are to hold their religious ordinances, *chanoyu* [茶の湯] (powder of a herb that they put in the water which they drink) must be acquired and a formal Japanese tatami mat room [*zashiki* 座敷], all furnished in the Japanese style, as said with regard to the way that houses must be constructed in Japan, because if the *zashikis* are not furnished in the Japanese fashion, many indignities and slights are occasioned both to the guests who are received as well as to the priests themselves.

Meanwhile, Luís Fróis continued to work on his *Historia de Japam*, which he composed mainly between 1583 and 1597. From the age of 31, the Portuguese Jesuit spent all his life in Japan from July 1563 until his death in July 1597, with the exception of the three years spent in Macao between 1592 and 1595. In his *Tratado*, which he wrote in June 1585 on the Shimabara peninsula of Kyūshū, Fróis described the powdered green tea *matcha*, whipped with a bamboo whisk, and the Japanese tea ceremony.

> Antre nós a ágoa que fe bebe antre-dia á-de fer fria e clara, a dos Japões à-de fer qente e à-de levar pós de chá batidos com huma efcova de cana … As noffas camaras tem jeralmente jenelas com muita claridade; os zaxiqis de chanoyu fem jenelas e efquros … Nós lava-

88 Álvarez-Taladriz (1954, Vol. I, Part II, p. 43, fn. 109); cf. Alexandro Valignano. *Libro Primero del Principio y Progresso de la Religion Christiana en Jappon*. British Library (Add. MSS. 9875), cap. 7, f. 36.

89 Giuseppe Francisco [i.e. Josef Franz] Schütte, ed., 1946. *Il Cerimoniale per i Missionari del Giappone, «Advertimentos e Avisos acerca dos Costumes e Catangues de Jappão» di Alexandro Valignano S.J.* Roma: Storia e Letteratura (p. 136).

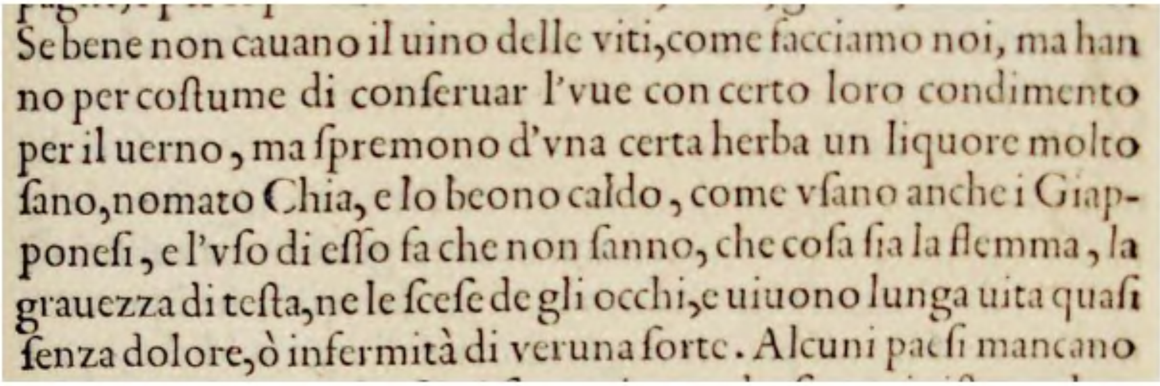

Se bene non cauano il uino delle viti, come facciamo noi, ma han
no per coſtume di conſeruar l'vue con certo loro condimento
per il uerno, ma ſpremono d'vna certa herba un liquore molto
ſano, nomato Chia, e lo beono caldo, come vſano anche i Giap-
poneſi, e l'vſo di eſſo fa che non ſanno, che coſa ſia la flemma, la
grauezza di teſta, ne le ſceſe de gli occhi, e uiuono lunga uita quaſi
ſenza dolore, ò infermità di veruna ſorte. Alcuni paeſi mancano

FIGURE 4.27 Based on his knowledge of the correspondence of Portuguese Jesuits, Giovanni Pietro Maffei already mentioned tea in Italian in the orthography *Chia* in 1589, years before Matteo Ricci's diaries reached Italy

> mos as mãos pera tocar alguma couza precioſa; os Japões as lavão pera verem os dongus de chanoyu.[90]

> Amongst us, the water that we drink in the daytime must be cool and clear, whereas that of the Japanese must be hot and contain the powder of tea, whipped with a bamboo whisk … Our rooms generally have windows and bright light, whereas the Japanese tatami mat rooms [*zashiki* 座敷] for the tea ceremony [*chanoyu* 茶の湯] are windowless and dark … We wash our hands in order to touch a precious object, whilst the Japanese wash theirs in order to examine the vessels [*dongu* 壜具] used for the tea ceremony.

In 1589, Japanese tea was described in a book published in Italian in Florence containing the histories of the East Indies compiled by Giovanni Pietro Maffei.

> Sebene non cauano il uino delle viti, come facciamo noi, ma hanno per coſtume di conſeruar l'vue con certo loro condimento per il uerno, ma ſpremono d'vna certa herba un liquore molto ſano, nomato Chia, e lo beono caldo, come vsano anche i Giapponeſi, e l'vso di eſſo fa che non ſanno, che coſa ſia la flemma, la grauezza di teſta, ne le ſceſe de gli occhi, e uiuono lunga uita quaſi ſenza dolore, ò infermità di veruna ſorte.[91]

> They do not extract wine from grapes, as we do, but they have the custom of conserving the grapes with some condiment of theirs for the winter, but they squeeze a highly salubrious liquor from a certain herb, called *chia*, and they drink it hot, as do the Japanese, and the using thereof makes that they do not know such a thing as phlegm, dejection or drowsiness, and they live a long life almost without pain or infirmity of any severity.

A brief description of a Japanese tea room and the tea plant and harvesting was also later provided by a Spaniard, Bernardino de Avila Girón, who visited Japan in the 1590s and again in 1607.[92]

90 Schütte, ed. (1955, 6: 33, p. 176; 11: 8, p. 222; 14: 21, p. 254).

91 Giovanni Pietro Maffei. 1589. *Le istorie delle Indie Orientali del rev. P. Giovan Pietro Maffei della Compagnia di Giesv con una scelta di lettere scritte dell'Indie, fra le quali ve ne sono molte non più stampate, tradotte dal medesimo con indici copiosi tradotte di latino in lingua toscana da Francesco Serdonati.* Fiorenza: Filippo Giunti (p. 217).

92 Dorotheus O.F.M. Schilling and Fidel de Lejarza, eds. 1933, 1934, 1935. 'Relacion del Reino de Nippon por Bernardino de Avila Giron', *Archivo Ibero-Americano,* XXXVI (1933): 481–531; XXXVII (1934): 5–48, 259–275, 392–434, 493–554; XXXVIII (1935): 103–130, 216–239, 384–417 (esp. vol. XXXVII, p. 29).

Ricci and Rodrigues

Tea in China is described by the Italian Jesuit Matteo Ricci in his diary, which was published posthumously at Augsburg in 1615 in a Latin translation. Ricci was born in Macerata on the 16th of October 1552. He went to Rome and became the novice of Alexandro Valignano, who later left for the Far East in 1573. Matteo Ricci became a Jesuit in 1571 in Rome, where he continued his studies until 1577. Then Ricci went to Coimbra in Portugal to join the Indian missions. He embarked in Lisbon for Goa, where he arrived on the 13th of September 1578. Ricci taught for four years as a professor of rhetoric in Goa and in Cochin. Then, Valignano assigned him to the missions in China, where Ricci lived from 1583 until his death in 1610.

Ricci's observations, made from the perspective of China, are noteworthy because he recorded that Japanese tea was far more highly valued in China than Chinese tea. He also observed that the Chinese knew the Japanese to take their tea as powdered green tea, whereas the Chinese took their tea as an infusion.

> Nec vna eſt huius frondis præſtantia, alia aliam ſolet ſuperare, atque ita libram vno aureo, & ſæpè duobus actribus, ſi præſtantior habita fuerit, comparabilis; apud Iapones præſtantiſſima decem ac ſæpè duodecim aureis vænit; apud quos etiã illius vſus aliquanto differt ab Sinenſi. Nam Iapones folia hæc in puluerem redacta feruentis aquæ cyatho immiſcent, quantum duobus aut tribus cochlearibus continetur, eamq́ue potionem ita permixtam epotant. Sinæ verò in aquæ feruentis vaſculum aliquot eiuſmodi folia inijciunt. inde calida, poſt eaquam horum vim imbibit, epotatur, ipſa verò folia relinquuntur.[93]

> Nor does this leaf come in just one quality, but in several grades, so that a pound of it will fetch one gold piece and often two or more if the quality warrants it, whereas the best Japanese grades can be worth ten or even sometimes twelve gold pieces. Amongst the Japanese the manner of taking it differs somewhat from the Chinese way, for in Japan the leaves are reduced to a powder and then mixed in a cup of boiling water, containing as much as two or three spoonfuls of it, and then the concoction, having been mixed, is imbibed. The Chinese place some leaves in a pot of boiling water, and then, when the potency of the leaves has been infused into the water, the beverage is drunk, and the leaves are left behind.

Ricci reported that in China tea was held to promote longevity, and he attributed the longevity of Chinese people to their habit of drinking tea. He described Chinese chopsticks, and he dwelt on the topic of drinking hot beverages, a practice still quite unfamiliar to Europeans.

> Inter veſcendum nec fuſcinulas adhibent, nec cochlearia, nec cultros; ſed bacillis vtuntu teretibus, ſesquipalmum longis, quibus mira dexteritate quodlibet edulij genus ori admouent, digitis omnino nihil contrectantes. ſciendum tamen, omnia in menſas inferri fruſtatim diſciſſa, niſi ſi quid fuerit natura mollius, vt oua, piſces, aliaq; huiuſmodi, hæc enim ipſis bacillis diuiduntur. Potu vtuntur feruenti, etiam in ſummo æſtu; ſiue ille vinum ſit, ſive decoctio Cia, ſiue aqua. Et ſanè videtur id ſtomacho prodeſſe non parum, nam & Sinæ ferè diuturnioris ſunt vitæ, & ad annum ſeptuageſimum, ac ſæpè octogeſimum viribus non admodum deſtituuntur. Hinc quoque euenire arbitror, quod Sinarum nemo calculari morbo laboret, qui noſtros Europæos ſæpè torquet, ex eo credo, quod perpetuò frigidam potent.[94]

> When taking meals, they use neither forks nor spoons nor knives, but use rounded sticks one and a half times as long as the palm of your hand, by means of which they are able to move

93 Trigault (1615, Liber I, Capitum III, pp. 15, 16–17).

94 Trigault (1615, Liber I, Capitum VII, p. 70).

any kind of food to the mouth with wondrous skill without touching anything with their fingers. Yet it should be noted that all of the food is cut into bite-size pieces, except those items that are of a softer consistency, such as eggs, fish and the like, and in this way, these items are divided into chunks with these very same sticks. They drink their beverages hot, even in the heat of the summer, whether it be wine or the brew called Cia or water. And verily it can be observed that the benefit to the stomach is not trifling, for the life expectancy in China is somewhat longer, and people often live to the age of seventy or eighty without their vitality being in any way diminished. It is for this reason, I think, that none of the Chinese are burdened with kidney stones, an ailment which often torments us Europeans, I believe, because we forever drink our beverages cold.

In 1610, the same year that Ricci died in Peking, another famous Jesuit was deported from Japan to Macau.

João Rodrigues was born about 1562 in or near the town of Sernancelhe in the Beira region of Portugal. At the age of thirteen he embarked on a carrack for India, and in 1577, barely fifteen years of age, Rodrigues arrived in Japan. For thirty-three years he lived at the Jesuit residence at Nagasaki, where he maintained a special tea room after the Japanese custom. He befriended the famous *daimyō* Toyotomi Hideyoshi and the *daimyō* Ōtomo Yoshishige, who from 1578 was also known as Dom Francisco of Bungo. Rodrigues also became acquainted with the *shōgun* Tokugawa Ieyasu.[95]

Rodrigues is the main author of the *Vocabvlario de Lingoa de Iapam*, which was published at Nagasaki in 1603 and is the oldest Japanese dictionary in a European language.[96] He also composed the oldest grammar of Japanese under the title *Arte da Lingoa de Iapam*, which was published in three parts between 1604 and 1608.[97] In his correspondence, he signed his name as 'João Roiz ⁜', with the characteristic ornamental flourish ⁜ used by Jesuits of the period to adorn their signature, but as an author his surname was written in full as 'Ioam Rodrigvez Tçuzzu'. The Japanese sobriquet *Tçuzzu* celebrated his mastery of the Japanese language and was an abbreviated form of the nickname *tsūji bateren* 通事伴天連 'translation padre' or 'translation priest'.[98]

After 33 years in Japan, Rodrigues was exiled to Macau in March 1610, when the Japanese government deported Jesuit missionaries in retaliation for an incident at Macau involving captain André Pessoa and the crew of his carrack *Nossa Senhora da Graça*, commonly remembered by the name *Madre de Deus*. In the incident, Japanese sailors were imprisoned, and some were killed. When the *Madre de Deus* later entered the port of Nagasaki, it was attacked in retaliation and went up in flames. Four years later, Tokugawa Ieyasu would forbid Christianity and expel all Portuguese clergy.

95 George Schurhammer S.I. 1963. 'Kapitel 31: P. Johann Rodrigues Tçuzzu als Geschichtsschreiber Japans', pp. 605–618 in *Gesammelte Studien herausgegeben zum 80. Geburtstag des Verfassers II* (*Orientalia: Bibliotheca Instituti Historici S.I., Volumen XXI*). Rom: Institutum Historicum S.I., und Lisboa: Centro de Estudos Históricos Ultramarinos.

96 João Rodrigues. 1603. *Vocabvlario de Lingoa de Iapam com adeclaraçao em Portugues, feito por algvns padres e irmaõs da Companhia de IESU.* Nagasaki [Nangafaqui]: Collegio da Companhia de IESUS.

97 João Rodrigues. 1604. *Arte da Lingo a de Iapam compofta pello Padre Ioão Rodriguez Portugues da Cõpanhia de IESV diuida em tres livros.* Nagasaki [Nangafaqui]: Collegio de Iapão da Companhia de IESU.—In a letter from Bungo, dated 14 October 1565, however, Luís d'Almeida reported that the Jesuit brother Duarte da Sylva had written a sketch of Japanese grammar in 1564 (Garcia, ed. 1997, 1° tomo, f. 156v). Duarte da Sylva's sketch has not survived. What has also not survived is a preliminary grammatical sketch prepared by Luís Fróis and João Fernandez, reported in Doi Tadao. 1939. 'Das Sprachstudium der Gesellschaft Jesu in Japan im 16. und 17. Jahrhundert', *Monumenta Nipponica*, II: 437–465.

98 Doi (1939: 464). The sobriquet also served to distinguish him from another Jesuit named João Rodriquez Jiram, whose name was also recorded as João Roĩs Jirão.

FIGURE 4.28
Portuguese carrack as painted on a screen in the *nanban* 南蛮 'southern barbarian' art genre by Kanō Naizen 狩野内膳 (1570–1616), kept at Kōbe Metropolitan Museum

During his years in Macau, Rodrigues undertook journeys to Canton and to Peking, and at Macau he prepared a revised version of his grammar, entitled *Arte Breve da Lingoa Iapoa*, published in 1620.[99] Subsequently Rodrigues also prepared his history of the early days of the Roman Catholic church in Japan, entitled *Historia da Igreja do Iapão*.[100] After twenty-three years in China, Rodrigues died and was interred on the 1st of August 1633 in the famous church of São Paolo in Macau.

Portions of the *Historia* deal with Japanese tea, the tea ceremony, tea etiquette, tea utensils, grades of tea, and so forth. Rodrigues' account of Japanese tea culture runs from Chapter 32 to 35, comprising the last four chapters of Book I of his *Historia*, and also includes Section 9 of Chapter 12.[101] Rodrigues' original manuscript from Macau was lost, and the surviving codex was tran-

99 João Rodrigues. 1620. *Arte Breve da Lingoa Iapoa Tirada da Arte Grande da mefma lingoa, pera os que começam a aprender os primeiros principios della, pello padre Ioam Rodrigvez da Companhia de IESV, Portugues do Bifpado de Lamego, diuidida em tres livros*. Macau [Em Amacao]: Collegio da Madre de Deos da Companhia de IESV (Biblioteca do Palácio da Ajuda a Lisboa, 50-XI-3).

100 The manuscript is preserved in the library of the Palácio da Ajuda in Lisbon as Códice 49-IV-53.

101 Cap. 12—§ 9 *Da caza onde dao' abeber o chã aos hofpedes, chamada Su Ky* [f. 63]; Cap. 32—*De modo come se convida abeber chã, e que couza seja a chã, e deste ceremonia tao' eftimada entre os Japoẽs* [ff. 121v], § 1 *Das qualidades do chã* [f. 124v], § 2 *Do modo como os Chinas, e Japoens preparao' o chã, e o dão a beber* [f. 125v], Cap. 33—*Do modo geral de convidar com a Chã entre os Japoẽs* [f. 127], § 1 *Da origem deste convite do chã e cauza por que os vazos que nelle seuzão vierão a tanto preço* [f. 128], § 2 *Do modo moderno de Chanoyu que agora corre chamado Su Ky e da sua origem, e fim em geral* [ff. 130v–131], § 3 *Dos gastos grandes que fazem no Su Ky, e pessoas que principalmte sedão a elle* [f. 133], § 4 *Das cabeças e mestras do Su Ky chamado Sukynoyoxŏ* [f. 135], Cap. 34—*Como se convida em particular ao Chã na Caza de Su Ky* [f. 137], Cap. 35—*Do fim que fe pretendem no Su Ky, e proveitos que delle fe feguem* [f. 139].

scribed by the copyist João Álvares around 1746. In 1954, a usable but not impeccable transcription of the codex was published in Macau by João do Amaral Abranches Pinto.[102] That same year, a critical edition of most of the passages pertaining to tea was published in Tōkyō in Spanish translation by Álvarez-Taladriz.[103] A partial, annotated but somewhat loose English translation of the codex appeared nineteen years later by the English Jesuit Michael Cooper.[104] Twenty-eight years later, Cooper produced a beautiful study and English translation of Rodrigues' work.[105] The account of Japanese tea culture and the tea ceremony provided by João Rodrigues was not superseded until 1933, when Sadler's detailed account of *chanoyu* was published in Kōbe and London.

Before Rodrigues presented his account of tea in the *História*, a passage recorded the enduring European fascination at the time with the Oriental practice of drinking hot water.

> Por todo o Reyno ha agoa e fontes excellentiſſimas; e a boa agoa, poſto que anão bebem fría de ordinario, toda via hè eſtimada dos Japoens para ſeu chanoyu como emſeu Lugar diremos fallando delle. No verão, e no inverno os Japoens de ordinario não bebem agoa fría, principalmente das partes do Gokinay para o poente; por que nas do Quanto athe oſim do Oriente bebem agoa fria ainda no inverno, poſto que tãobem tem o uzo da quente.[106]
>
> In all of the kingdom there is water and most excellent springs, and this good water, since they normally do not drink it cold, is highly valued by the Japanese as water for preparing tea, as we shall relate when we describe the use of tea. Neither in the summer nor in the winter do the Japanese normally drink cold water, especially in the Kinki region [historically: Gokinai 五畿内] and to the west, although in the Kantō region and to the east they do drink cold water even in the wintertime, whilst they also make use of hot water.

Rodrigues described the Japanese tea house or *sukiya* 数寄屋, literally a house of *suki*, a Japanese term which Rodrigues recorded as 'Su Ky' and which may approximately be rendered into English as refined sensibilities or elegant pursuits. Rodrigues described the stepping stones, the pool of water, the manicured garden, the arrangement of the tatami mats on the floor, the details of the woodwork, even the placement of a specimen of beautiful calligraphy on the wall or a vase with flowers. He also devoted two chapters of his *Historia* to the description of the tea plant, the various grades of tea, the pricing of tea, the preparation of tea, the virtues of tea, the differences between the Japanese and the Chinese manner of preparing and serving tea, and a description of the Japanese tea ceremony.

Like Fróis and Valignano before him, Rodrigues recorded the name of the tea ceremony by its popular name 'Chanoyu'. In his *Vocabulario*, Rodrigues too noted that the literal meaning of the Japanese term *cha no yu* 茶の湯 as

102 João do Amaral Abranches Pinto, ed. 1954, 1956. *História da Igreja do Japão pelo padre João Rodrigues Tçuzzu S.J., 1620–1633: Transcrição do Códice 49-IV–53, ff. 1 a 181, da Biblioteca do Palácio da Ajuda, Lisboa* (two volumes). Macau: Notícias de Macau (with the passages on tea to be found in vol. 1, pp. 226–233, 437–507). Several of the copyist's orthographic particularities in the codex are modernised in this transcribed edition. For example, *chã* is adapted to *chá*, and *verao'* is adapted to *verão*. Michael Cooper dismisses the useful 1950s edition as 'unannotated and inaccurate' (Michael Cooper. 1989. 'The early Europeans and tea', pp. 101–133 in Varley and Isao (op.cit., p. 133)).

103 José Luis Álvarez-Taladriz. 1954. *Juan Rodríguez Tsuzu S.J., Arte del Cha* (Monumenta Nipponica Monograph No. 14). Tokyo: Sophia University.

104 Michael Cooper, S.J. 1973. *This Island of Japon: João Rodrigues' Account of 16th-Century Japan*. Tokyo: Kodansha International.

105 Cooper (2001).

106 João Rodrigues. *Historia da Igreja do Iapão*, Códice 49-IV-53 da Biblioteca do Palácio da Ajuda, folio 42 verso (transcribed in Pinto 1954: 149–150).

> agoa quente com que ſe bebe o cha[107]
>
> hot water with which the tea is drunk

Though *cha no yu* literally denotes the hot water with which the tea is prepared, Rodrigues explained that the term is used metonymically to denote the tea ceremony or even the tea house where the ceremony is held. More formally, the tea ceremony is known in Japanese as *chadō* or *sadō* 茶道 'the way of tea'.

In discussing the virtues of tea, Rodrigues echoed portions of the classical tea wisdom dating back to the Táng dynasty treatise of Liú Zhēnliàng 劉貞亮 that he had gleaned from Japanese sources and which were well known to practitioners of *chadō* in Japan.[108] Rodrigues described the Japanese custom of receiving guests with tea and the high cost of the vessels used to prepare tea.

> … ceremonias para convidar hum a beber chá com ſolemnidade, que he couza de mayor primor, honrra, e eſtima que hà entre os Japoens, em que gaſtão muita ſubſtancia em comprar peças de muito preço, e eſtima entre elles, e algumas que valem mais de vinte mil cruzados que ſervem quando ſe covida a beber chá …[109]
>
> … ceremonies to invite someone to drink tea with solemnity, which is a matter of major importance, honour and respect amongst the Japanese, for which they go to great expense to buy precious vessels and utensils which they hold in high esteem, some of which may cost as much as twenty thousand cruzados, which are used when a person is invited to drink tea …

In addition to tea and the tea ceremony, Europeans were surprised to observe the value of tea vessels and tea caddies.

Jewels of the East

The earthenware *matcha* caddy owned by Ōtomo Yoshishige and reported by d'Almeida in his letter of the 14th of October 1564 is described in or before 1580 by Alexandro Valignano in the following words:

> un boyoncito de barro, que realmente entre noſotros de ningún otro uſo ſirviera ſino para meterlo en una jaula de parajitos para que bebieſen agua en él, el cual compró él miſmo por nueve mil taes de plata, que ſon cerca de catorce mil ducados, por el cual no diera de verdad yo más de un o dos maravedis.[110]
>
> a little earthenware jar, which amongst us could serve no other purpose than to put in a parakeet cage so that the birds could drink water from it, and which he had purchased for nine thousand taels of silver, which would make roughly fourteen thousand ducats, and for which I would really not give more than one or two farthings.

Several years later, Fróis was no more flattering in his letter from Nagasaki dated the 20th of August 1585,[111] in which he mentioned the very same *matcha* caddy as:

> hũa vaſilha pequena de barro vidrada do tamanho de hũa romã, & ſerue de ter ali certas folhas moidas, feitas em pó, que commummente bebem a cada paſo com agoa quẽte …

107 Álvarez-Taladriz (1954: 99).

108 Códice 49-IV-53, ff. 124v, 125 and 125v (transcribed in Pinto 1954: 447–451), although Rodrigues only enumerates six of the ten virtues.

109 Códice 49-IV-53, f. 116 (transcribed by Pinto 1954: 416–417).

110 Álvarez-Taladriz (1954: 45).

111 Garcia, ed. (1997, 2° tomo, f. 120v): 'Carta di padre Luis Froes, de Nangaçáqui a vinte de Agoſto de 1585. pera o padre geral da Companhia de Ieſus'.

FIGURE 4.29
ruson tsubo 呂宋壺 'Luzon jar', Azuchi Momoyama period (1568–1600), Tōshōgū 東照宮 shrine and Wakayama 和歌山 Prefectural Museum

> a small glazed earthenware vessel the size of a pomegranate, which serves to keep certain finely chopped leaves of a herb, made into a powder, which they commonly drink on any every occasion with hot water …

Fróis went on to record that the sale of this ceramic *matcha* caddy, when its owner fell on hard times, fetched the handsome return of 15,000 cruzados.[112]

The Philippine *ruson tsubo* 呂宋壺 'Luzon jars' used for the storage of tea were imported by the Portuguese and fetched inordinately high prices in Japan. The import ban imposed by Hideyoshi is recorded by the Florentine merchant Francesco Carletti in a manuscript dating from June 1597 and by Antonio de Morga in 1609. Francesco Carletti embarked in 1594 at Cadíz, travelled to Asia, and eight years later returned to Europe on a Portuguese carrack, which was, however, seized by Zealanders off of St. Helena in March 1602. He was taken by the Zealanders to Middelburg, where he received some compensation, though only after three years of litigation. He then returned to Florence in July 1606.

Carletti wrote the following account of tea and of the Philippine *ruson tsubo*.

> La mattina avanti che noi sbarcaſſimo in terra, vennero i Miniſtri della Giuſtizia per commandamento del Governatore del luogo a far la cerca fra tutt'i Marinari, e Mercanti, e Paſſeggieri di certi vaſi di terra, che ſogliono eſſere portati dall'Iſole Filippine, e da altre di quel Mare, i quali per legge del Rè del Giappone, ſi comandava a tutti ſotto pena della vita, che ſi doveſſero manifeſtare, perche li volea comprar tutti. Ma chi lo crederà, e pure è veriſſimo … come queſti vaſi vagliono infino a cinque, ſei,

112 Garcia, ed. (1997, 2° tomo, ff. 135, 135ᵛ).

e dieci mila ſcudi l'uno … l'anno 1615. paſſando per Firenze il Padre F. Luigi Sattelo Spagnuolo dell'Ordine di S. Franceſco … mi diſſe in queſto propoſito … che s'era trovato a vederne comprar in quel paeſe uno di queſti vaſi per 130. mila ſcudi … in queſti vaſi ſi paga la proprietà, e virtù ch'hanno di conſervare, che mai non ſi guaſta per dieci, o venti anni una certa lor foglia, che chiamano Cià, ovvero The, che viene prodotta da una pianta ſimile a quella del Boſſolo, ſalvo che ha le foglie tre volte più grandi, e ſi mantiene verde tutto l'anno; e fa il ſuo fiore odorifero in forma di roſe dommaſchine. Delle foglie ne fanno polvere, che poi poſta in acqua calda, che di continuo tengono al fuoco per queſto effetto, beono quell'acqua più per uſo di medicina, che per guſto, eſſendo di ſapore amargnolo, benche laſcia poi la bocca buona, ed a chi uſa berne fa buoniſſimo effetto. Giova aſſai a quelli ch'hanno debolezza di ſtomaco, e ajuta maravglioſamente alla digeſtione, e ſpezialmente è ottima a levare, ed impedire i vapori, che non vadano alla teſta, ed in fatti il berne dopo cena leva il ſonno. Perciò il ſuo uſo è berla ſubito dopo aver mangiato, e maſſime quando uno ſi ſente carico dal vino. L'uſo di bere queſto Cià infra Giapponeſii è tanto, e tale, che non s'entra mai in caſa di neſſuno, che non ſia offerto amichevolmente, e quaſi per creanza, coſtumandoſi da loro per onorare gli oſpiti amici, ſiccome s'uſa ne'paeſi di Fiandra, e di Germania di offerire il Vino. Fra l'altre coſe, che dicono di queſto Cià, una è, che la ſua foglia quanto è più vecchia, tanto è migliore; ma perchè ſi conſervi, e ſi mantenga nel medeſimo eſſere, non trovano mai il modo, ſe non mettendola ne' ſopramnetovati vaſi, perche ne que'd'Oro ne d'Argento, ne d'altro Metallo, non la conſervano tale, quale eſſi deſiderano. In verità pare ciò una vana ſuperſtizione; ma in effetto eſſi veggono per eſperienza, che detta foglia non si mantiene buona, ſe non in que' vaſi de ſempliciſſima terra, di quella però, che ha queſta virtù, che ſe ne trovano pochi, che maraviglioſamente ſono conoſciuti da queſta nazione ſubito, che li veggono a certi ſegni, e caratteri di lettere antichiſſime, e per conſeguenza d'antica manifattura. In oggi di queſti non ſe ne trovano, ſe non di quelli, che ſono di già ſtati da molte centinaja d'anni in qua fabbricati, e ſono portati loro dal Regno di Cambogia, da quello di Sian, e di Coccincina, e da tutte l'Iſole Filippine, e da altre di queſto Mare; i quali a viſta giudico poteſſero valere tre o quattro quattrini l'uno; e molti Mercanti, ch'hanno avuta fortuna di portare di quella ſorta, ch'hanno tal virtù, o ſuperſtizione ch'ella ſi ſia, ſi ſono arrichiti. Ed è coſa veriſſima, ch'il Rèe di queſto paeſe inſieme con tutti gli altri Principi del Regno, hanno un numero grandiſſimo di queſti vaſi, e li tengono in ſtima, com'un loro principaliſſimo teſoro ſopra ogn'altra coſa, che di pregio ſi poſva ſtimare, e per vanaglorioſa burbanza fanno a gara a chi ne poſſiede maggior numero, e ſe li moſtrano l'uno all'altro con loro grandiſſima contentezza, e ſodisfazione.[113]

The morning before we disembarked and went on land, the ministers of justice by command of the local governor came on board to conduct a search amongst all the sailors, merchants and passengers for certain earthenware vessels, that tend to be brought from the Philippine islands and from other islands of that sea, and which by the law of the king of Japan, were required under penalty of death to be shown because he wished to buy them all. But who would believe it, and yet 'tis quite true … as these jars are worth as much as five, six and even ten thousand escudos each … in 1615 on the way to Florence father Luigi Sattelo, a Spaniard in the Franciscan order, … told me in this regard that one such vessel was once sold in this country for 130 thousand escudos … Such prices are paid for these vessels because of their property and virtue of keeping fresh a certain leaf which they call *Cià* or *The* so that these leaves of theirs do not spoil for a period of ten or twenty years. These leaves are produced from a plant similar

113 Carletti (1701, Vol. II: 11–16).

to the boxwood, except that the leaves are three times larger and remain green throughout the year, and its fragrant flowers have the form of damask roses. From these leaves they make a powder which is then put into hot water, which they always keep at the ready on the fire for this purpose. They drink that water more for its medicinal qualities than for its taste, for it has a rather bitter taste, although this concoction leaves the mouth feeling fresh and it exerts a most wholesome effect on he who is in the habit of drinking it. It is useful to those who have an upset stomach and acts as a wonderful digestive, and in particular it is the very best thing for relieving and impeding vapours from rising to the head, and in fact drinking it after meals alleviates sleepiness. Therefore, the practice of drinking it immediately after having eaten is most frequently observed when one feels heavy with wine. The custom amongst the Japanese of drinking this *Cià* is so widespread that you will never enter anyone's house without being offered some of it in the most friendly manner, and, as if by upbringing, they are accustomed to honouring their visiting friends in the same way that guests are offered wine in Flanders and Germany. One of the things that they say about this *Cià* is that its leaves get better the older they are, but there is no better way of preserving them and keeping them in the best condition than storing them in the afore-mentioned jars, for neither vessels of gold or silver nor of any other metal will conserve them as well as they require. In truth this may seem but a vain superstition, but in effect they observe by experience that these leaves do not keep as well other than when they are stored in these simple earthenware jars, though the vessels having this quality are rare but can be wondrously recognised in this country at once by certain signs and antique characters which they bear indicating the antiquity of their manufacture. Today such vessels are no longer found other than those which were manufactured many centuries ago and have been brought hither from the kingdom of Cambodia, the kingdom of Siam, from Cochin China or the islands of the Philippines and other isles of that sea. There are many seamen who have had the good fortune of being able to bring in some of those jars that were appraised on sight as being worth three or four *quattrini* each and to which this quality was ascribed, whether in reality or by superstition, and they have thus enriched themselves.[114] It is a veritable fact that the king of this country together with all the princes of the realm have a great number of these vessels which they value highly as being their greatest treasures above any other things that could be highly valued, and by vainglorious haughtiness they vie with each another for possession of the greatest number of these jars, which they display to one another to their greatest contentment and satisfaction.

Antonio de Morga from Seville went to the Philippines to serve as the lieutenant governor of Manila in 1593 and famously fought against the Dutch corsairs under Olivier van Noort. He then left Manila in 1603 and worked as an advisor to the viceroy in Mexico City in the viceroyalty of New Spain, where he published his book in 1609. Doctor de Morga recorded the name of tea as *Cha*, pointed out that the beverage was drunk hot, and mistakenly reported that the drink was brewed from the roots of the plant. Though not a reliable source on tea, Doctor de Morga is yet another interesting source of information on the Philippine *ruson tsubo* 呂宋壺 'Luzon jars', so prized in Japan at the time. He likewise recorded the belief that these receptacles were indispensable for keeping tea in good condition.

> … unos tibores de barro muy antiguo, morenos de color, y no de buena vista, unos medianos, y otros menores, con unas señales y sellos, que no saben dar razon de donde los hubieron, ni

114 *Quattrini* were coins valued at four *denari*, in use in many Italian polities until the 19th century.

en qué tiempo; porque ya no se traen, ni en las islas se labran, que los Japones los buscan y estiman, porque han hallado que la raiz de una yerba, que llaman Cha, que elles beben caliente, por mucho regalo y medicina, entre los reyes y señores del Japon, no se conserva ni guarda, sino es en estos tibores, de que hacen en todo el Japon tanta estimacion, que son las joyas mas preciadas de sus camarines y recámaras, y vale un tibor mucho precio, y guarnecénlos de fuera, de oro fino, labrado con mucho primor, y méténlos en fundas de brocado, y hay tibor que se estima y vende por dos mil taes de á once reales, y á menos, conforme cada uno es, sin que le dañe estar hendido, ni desportillado; porque, para tener dentro la cha, no es de inconveniente.[115]

... certain very old ceramic jars, brown in colour, not pleasing to look at, some medium in size, others small, with signs and seals, which provide no certain information about where they come from, or from what time, for they are no longer imported from nor manufactured on those islands [where they were once produced]. The Japanese cherish and treasure them, for they have ascertained that that the root of a herb, which they call *Cha*, which is drunk hot, for entertainment and for medicinal purposes, by the kings and lords of Japan, cannot be kept or preserved other than in those jars, which they hold in high esteem throughout Japan, and which are the most precious jewels of their dressing rooms and bedrooms. A single jar can fetch a large sum of money, and they decorate them on the outside with pure gold, wrought with great delicacy, and gently wrap them in brocade pouches. There are much prized jars which sell for two thousand taels to as much as eleven reals, or for less, each depending on its condition, as long as they are not cracked or chipped, and so rendered unsuitable for keeping *cha* inside them.

In a Spanish text published in 1610, Pedro Teixeira reported having seen dried tea leaves in Malacca, and he wrote that the Chinese prepared a drink from it. The Spaniard also mentioned coffee and chocolate.

Hay otra manera de beuida muy vzada por toda Turquia, Arabia, Perſia, y Surya dicha Kaoàh,[116] es vna ſemiente, muy ſemejante à pequeñas hauillas ſequas, trahеſe de Arabia, cuezeſe en caſas para ello deputadas, el coſimiento es eſpeſſo, ſobre negro, y incipido, y ſi algun guſto o ſabor tiene es declinante à amargo, pero poquiſſimo y en eſtas caſas ſe juntan todos los que quierẽ, y por vnas eſcodillas deporcelama de China q̃ lleuaran haſta quatro o cinco onças, van dando à los que piden, que tomadas en la mano bien calliéntes eſtan ſoplando y ſoruiẽdo: dizen los que la ſuelen beuer; q̃es de prouecho para el eſtomago, para las vẽtoſidades y almorranas, y q̃ deſpierta el apetito. Al miſmo modo es el Cha de la China, y en la miſma manera ſe toma: ſaluo que el Cha, es hoja de yerua menuda, de cierta planta trahida de Tartaria, que me fue moſtrada eſtãdo yo en Malaca, mas por ſer ſeca no pude juzgar bien de ſu figura: y tambien deſta ſe pregona grande prouecho, en perſeruar de los daños que poderia cauſar la glotoneria de los Chinas.[117]

115 Antonio de Morga. 1609. *Svcesos de las Islas Filipinas, dirigido a Don Cristoval Gomez de Sandoual y Rojas, Duque de Cea*. Mexico: Geronymo Balli.

116 *Kaoàh* and the various other early European renditions of the Arabic word for coffee, قهوة *qahwah*, are not to be confused with kava (*Piper methysticum*). Despite the phonetic similarity in the names, the kavaloctones contained in the roots of the kava plant exert an effect quite unlike that of the beans of the coffee tree. Kava roots are used to prepare a foul tasting sedative drink with anaesthetic properties, which relieves anxiety and appears to be conducive to relaxed and good-natured socialising throughout Polynesia. The cool water infusion can be prepared either from dried shredded roots or, ideally, from freshly pounded fresh roots.

117 Pedro Texeira. 1610. *Relaciones de Pedro Teixeira d'el Ori-*

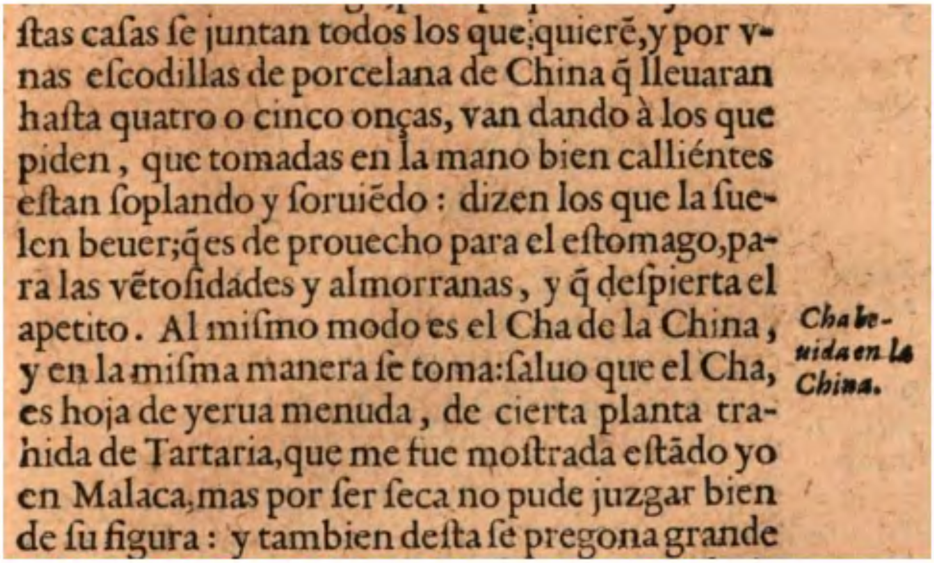

ſtas caſas ſe juntan todos los que quiere͂,y por v-
nas eſcodillas de porcelana de China q̃ lleuaran
haſta quatro o cinco onças, van dando à los que
piden, que tomadas en la mano bien calliéntes
eſtan ſoplando y ſoruie͂do: dizen los que la ſue-
len beuer; q̃ es de prouecho para el eſtomago,pa-
ra las ve͂toſidades y almorranas, y q̃ deſpierta el
apetito. Al miſmo modo es el Cha de la China, *Cha be-*
y en la miſma manera ſe toma:ſaluo que el Cha, *uida en la*
es hoja de yerua menuda, de cierta planta tra- *China.*
hida de Tartaria,que me fue moſtrada eſta͂do yo
en Malaca,mas por ſer ſeca no pude juzgar bien
de ſu figura: y tambien deſta ſe pregona grande

FIGURE 4.30
In a Spanish text printed in 1610, Pedro Teixeira mentioned *el Cha de la China* 'the tea of China' in addition to coffee and chocolate

> There is another type of beverage taken in all of Turkey, Arabia, Persia and Syria, called *Kaoàh*, which is a seed quite similar to small dried little beans, brought from Arabia, prepared and served in specially designated houses. The brewed infusion is thick, nearly black, insipid, without any flavour and the taste tends towards bitter, but in small groups those who wish to do so gather in these houses, and they bring out Chinese porcelain bowls of four to five ounces to those who ask for it, which are held in the hand whilst hot, and the drink is taken whilst blowing and sipping. They say that they usually drink it for the benefit of the stomach and against flatulence and piles, and for reducing the appetite. Of the same kind is the *Cha* of China, which is taken in the same manner, a herb consisting of short leaves from a certain plant brought from Tartary, which was shown to me when I was in Malacca, but being dried it was difficult to ascertain the original shape of the leaves, and they draw great advantage from it, but also suffer those ill effects which might be what gives rise to gluttony in the Chinese.

Teixeira's testimony faithfully repeated older reports from the Near East that coffee reduced appetite and acted as a stomach tonic, but he was not quite as knowledgeable when it came to tea. This Spanish text was published nearly half a century after the Portuguese had begun reporting on tea, and Teixeira's report appeared in print in the same year that the first shipment of tea was delivered from Japan to the headquarters of the Dutch East India Company in Amsterdam. Spain was the initial port of entry into Europe for chocolate, but not for tea.

Tea reached Holland in 1610, and from Holland tea made its *début* in France in 1636. The famous 1641 English treatise on warm beer made reference to warm drinks drunk by the ancients such as the *ptisánē* πτισάνη and showed a certain fascination with Maffei's report 'that they of *China* do for the moſt part drink the ſtrained liquour of a herb called *Chia* hot'. Such examples impelled the author to opine: 'I hold That man unwiſe that drinks his liquour cold'.[118] Despite the author's fer-

gen Deſcendencia y Svcceſſion de los Reyes de Perſia, y de Harmuz, y de vn Viage hecho por el mismo autor dende la India Oriental haſta Italia por tierra. Amberes [Antwerpen]: En caſa de Hieronymo Verduſſen (Vol. 1, p. 19).

118 F.W. 1641. *Warm Beere, or a Treatiſe wherein is declared by many reaſons, that Beere ſo qualified is farre more*

vent advocacy of warm beer, the joys of drinking such a beverage tepid do not quite appear obvious. It was in 1645, four years after this odd English treatise, that the Dutch first began to ship tea over to England. The histories of coffee and chocolate are told in Chapter Seven.

wholesome then that which is drunke cold. With a confutation of such objections that are made against it; published for the preservation of health. Cambridge: Printed by *R. D.* for Henry Overton (p. 142, last unnumbered page before page 1).

CHAPTER 5

Dutch Capitalism and the Globalisation of Tea

> Ce font les Holandois qui nous
> l'ont aporté par leur commerce
> dans le Japon & dans la Chine.
>
> – PHILIPPE SYLVESTRE DUFOUR (1685)

A Dutchman in Goa and a Landlubber in Bordeaux

Tea is first mentioned in print in a Dutch source in 1596 by Jan Huygen van Linschoten under the Japanese name *cha*, written 'Chaa'. Born in 1563 in Haarlem, Jan Huygen went to Seville in the year 1579 to join his half brothers. The following year he went to Lisbon, where he became the secretary to João Vicente da Fonseca, who in 1582 was appointed Patriarch of the East Indies, which was the grand title for the archbishop of Goa and Daman. They set sail on the 8th of April 1583, and until 1589 Jan Huygen lived in Goa, where he adopted the surname 'van Linschoten'.

He sailed back to Europe after the archbishop died, spent some time on St. Helena and then more than a year on the Azores following a shipwreck caused by the brigandry of English pirates. He returned to Lisbon in 1592, went back to Holland and settled in Enkhuizen. In 1596, his account was published about what he had learnt from Portuguese sources during his sojourn in Goa, under the title *Itinerario*. The chapter about Japan contains a description of Japanese *matcha* or green powdered tea as well as a report on the high value of tea kettles, tea bowls and tea caddies.

> … als contrarie van alle andere natien; dat bouen-ghenoemde heet water dat toebereydt is met een feecker pulver van een cruyt ghenaemt *Chaa*, 'twelcke feer gheacht wert, ende is in foo groote eftimatie by haer, fo dat alle die van vermogen ende ftaet zijn, hebben dit water op een feeckere en fecrete plaetfe bewaert, ende die Heeren makent felver toe, ende wanneer zy eenigh vrient oft gaft grootelijcks willẽ eeren eñ onthalen, geven hem van dit heet water te drinckẽ, ende die pottẽ daer ment in fiedt ende 'tcruyt in bewaert, met die aerde croefen daermen 't uyt drinckt, houdenfe in fo grooten weerden ende eftimatie, als mẽ by ons Diamanten, Robynen, ende ander cleynodien, zy en werden niet gheacht door haer nieuwigheyt: maer door haer oudtheyt, ende datfe van een goedt werckmeefter ghemaeckt zijn, ende om die te kennen ende t'onderfscheyden, hebbender groote acht op, ende haer weerdeurs ende kenners diefe eftimeren ende weerderen, gelijck by ons die Goutfmeden het Silver ende Gout weerderen, eñ die Juweliers die cleynodien ende edele ghefteenten, ende foofe van een out eñ vermaert officiael ofte werck-meefter ghemaeckt zijn, gelden wel het ftuck 4. ofte 5. duyfent Ducaten ende meer; Den Coningh van *Bungo* gaf eens voor een alfulcken Pot (zijnde met drie voeten) 14 duyfent Ducaten …[1]

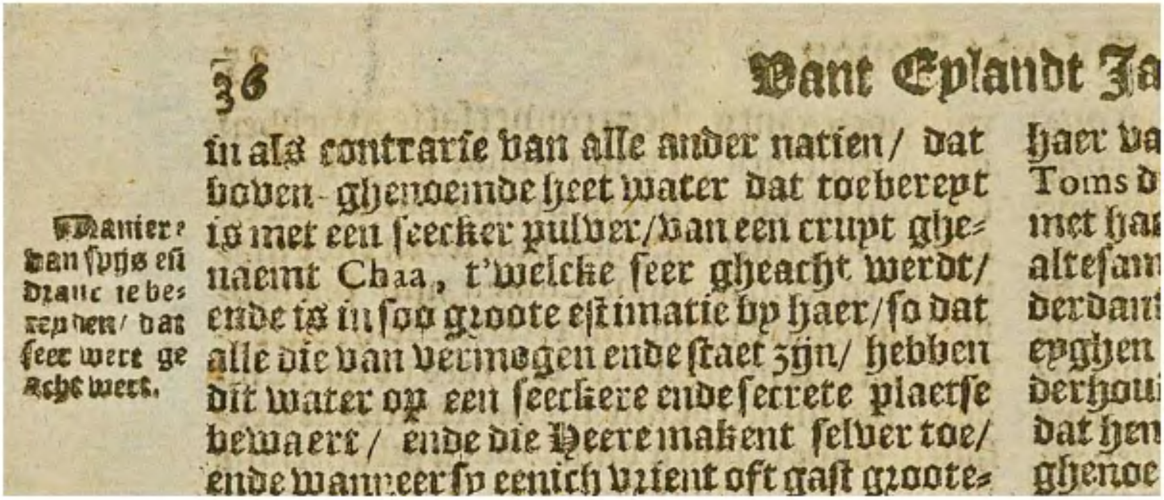
1 Jan Huygen van Linschoten. 1596. *Itinerario, Voyage ofte Schipvaert van Jan Huygen van Linfchoten naer Ooft ofte Portugaels Indien inhoudende een corte befchryvinghe der felver Landen ende Zee-cuften met aenwyfinge van alle de voornaemde principale Havens, Revieren, hoecken ende plaetfen, tot noch toe vande Portugefen ontdeckt ende bekent: Waer by ghevoecht zijn, niet alleen die Conterfeytfels vande habyten, drachten ende wefen, fo vande Portugefen aldaer refiderende, als vande ingeboornen Indianen, ende huere Tempels, Afgoden, Huyfinge, met die voornaemfte Boomen, Vruchten, Kruyden, Speceryen, ende diergelijcke materialen, als ooc die manieren des felfden Volckes, fo in hunnen Godts-dienften, als in Politie ende Huijf-houdinghe: maer ooc een corte verhalinge van de Coophandelingen, hoe eñ waer die ghedreven eñ ghevonden worden, met die ghedenckweerdichfte gefchiedeniffen voorghevallen den tijt zijnder*

FIGURE 5.1 Jan Huygen van Linschoten, as portrayed on the frontispiece of his *Itinerario* published in 1596

In contrast to all other nations, the aforementioned hot water is prepared with a certain powder made from a herb called *Chaa*, which is held in high esteem and is so highly valued amongst them that all who are wealthy or

refidentie aldaer. Alles befchreven ende by een vergadert, door den felfden, feer nut, oorbaer ende oock vermakelijcken voor alle curieufe ende Liefhebbers van vreemdigheden.

t'Amstelredam: By Cornelis Claefz. op't VVater, in 't Schrijfboeck, by de oude Brugghe (p. 36).


36 Vant Eylandt Ja

Manier van spijs en dranc te bereyden/ dat seer weert ge acht weert.

in als contrarie van alle ander natien/ dat boven-ghenoemde heet water dat toebereyt is met een seecker pulver/van een cruyt ghe-naemt Chaa, t'welcke seer gheacht werdt/ ende is in soo groote estimatie by haer/so dat alle die van vermogen ende staet zijn/ hebben dit water op een seeckere ende secrete plaetse bewaert/ ende die Heere maken selver toe/ ende wanneer sy eenich vrient oft gast groote-

FIGURE 5.2 The first mention of *Chaa* 'tea' in a published Dutch source in 1596

enjoy social standing keep this water in a certain secret place, and gentlemen even prepare this beverage themselves and they offer some of this hot water to drink whenever they wish to honour and regale any guest or friend. And they so highly value and cherish the pots in which it is steeped and in which they keep the herb, as well as the earthenware bowls from which they drink it, as much as we value diamonds, rubies and other jewels. They are not valued for being new, but because they are antique, and because they were made by a good craftsman, and they place great importance on the ability to know and discern, and the connoisseurs and specialists of these objects value and appraise just as goldsmiths among us appraise gold and silver, and jewellers appraise jewels and precious stones, and inasmuch as they have been produced by an old and renowned official or craftsman, a single piece may be valued at four or five thousand ducats. The king of Bungo once paid the sum of fourteen thousand ducats for one such pot with three tiny feet.

The exorbitant prices paid for cast iron tea kettles or *tetsubin* 鉄瓶, artisanal tea bowls or *chawan* 茶碗 and for the tiny tea caddies in which *matcha* was stored is one of the many topics which van Linschoten gleaned from the Portuguese correspondence to which he was privy.

Japanese powdered tea can be drunk either thick or thin. People who fancy *matcha* sometimes tend to prepare their *matcha* thicker as time goes on. There are two types of tea caddy for powdered green tea. The *chaire* 茶入 'tea container' is a tea caddy that is used when making *koicha* 濃茶 'thick tea'. The *chaire* is small, but usually taller than it is wide, typically made of ceramic with an ivory lid, which is covered with gold leaf underneath. A *chaire* is kept in a beautiful silken pouch called a *shifuku* 仕覆, with drawstrings.

The other type of *matcha* caddy is an essential *chaki* 茶器 'tea implement' commonly known as a *natsume* 棗 'jujube'. The small jujube-shaped tea caddies are made of lacquered wood and used for storing powdered tea in order to make thin tea, which is why they are also sometimes referred to as *usucha-ki* 薄茶器 'thin tea containers'. Jan Huygen van Linschoten not only echoed the descriptions of the value of tea utensils as reported by early Portuguese writers, his account also mentions the famous *matcha* caddy of *daimyō* Ōtomo Yoshishige, also known as Dom Francisco of Bungo, to whom he refers as 'the king of Bungo'.

This passage holds the first published attestation of a word meaning tea in Dutch, and the word is *Chaa*. The first published mention of tea in the

FIGURE 5.3 A tea caddy or *chaire* 茶入, used for keeping *matcha* powder for making thick tea or *koicha* 濃茶

FIGURE 5.4 The same *chaire* 茶入 in a silken pouch called a *shifuku* 仕覆, with drawstrings

English language appeared two years later in the 1598 English translation of van Linschoten's Dutch original: '… the aforesaid warme water is made with the powder of a certaine hearbe called chaa'.[2] So not only did the word for tea in Portuguese first appear under the Japanese name for the plant, but also the first mention of tea in Dutch and English were renderings of Japanese *cha* 茶.[3] In 1615, twenty-four years before the trade with Japan became the exclusive prerogative of the Dutch for over two centuries, Richard Wickham, factor for the English East India Company at 'Firando', i.e. Hirado 平戸, wrote to Mr. Eaton at 'Meaco', i.e. Miyako 都 or Kyōto 京都, on the 27th of June 1615, requesting 'a pot of the best sort of *chaw*'.

> Mr. Eaton I pray you buy for me a pot of the best sort of chaw in Meaco, 2 Fairebowes and Arrowes, some half a dozen of Meaco guilt [i.e. gilt] boxes square for to put in to bark [i.e. barque] and whatsoever they cost you I will be alsoe willinge acoumptable unto [you] for them.[4]

2 Iohn Hvighen van Linschoten. 1598. *Iohn Hvighen van Linschoten, his Difcours of Voyages into ye Easte & West Indies, Deuided into Foure Bookes*. London: Iohn Wolfe.

3 In 1564, d'Almeida wrote both *Chà* and *Chá*, and these Portuguese spellings were rendered into Italian by Maffei in 1589 as *Chia*. In Italian, the Central Asian form had appeared in print earlier as *Chiai* in 1559, and between 1583 and 1610 Ricci recorded the Chinese word for tea in his diary in Italian as *Cià*.

4 This fragment of the original manuscript of Wickham's letter to Eaton is photographically reproduced by Ukers (1935, Vol. 1, p. 72) and by Forrest (1973: 20). Both Ukers and the graphologist whom Forrest consulted read 'pot', whereas Yule and Burnell (1903: 906) read 'pt.', which, if it had been correct, could have been interpreted as 'pint'. However, scrutiny of the handwriting shows that Ukers and the graphologist consulted by Forrest must have been correct in their reading (Ukers. 1935; Denys Mostyn Forrest. 1973. *Tea for the British: The Social and Economic History of a Famous Trade*. London: Chatto & Windus; Col. Henry

FIGURE 5.5 A black lacquer *natsume* 棗 'jujube' tea caddy with an inlaid mother-of-pearl design, used for storing *matcha* powder for making thin tea or *usucha* 薄茶

FIGURE 5.6 The same *natsume* 棗 in a silken pouch called a *shifuku* 仕覆, with drawstrings

Tea would also still occur over half a century later under the form *cha* in an English glossary dating from 1671,[5] although by this time Englishmen had already embraced the Hokkien word for tea which the English had learnt from the Dutch.

Possibly the first mention of tea in a published French source was made by Pierre du Jarric, who was born in Toulouse in 1582, became a Jesuit at the age of sixteen, taught moral theology at Bordeaux for fifteen years and died at Saintes in 1617. All his life, this hapless Jesuit yearned to travel to the East, but sadly he was destined to remain in Europe. So instead du Jarric collated information from various accounts written by other Jesuits who had been fortunate enough to travel to the East Indies, such as Luís de Guzmán[6] and Fernão Guerreiro.[7] Pierre du Jarric mentioned tea briefly as *chia* in his large three-volume compendium about all things Eastern that had been seen and heard by Jesuits in Asia before 1600. In describing Chinese customs, he wrote:

> Quand ils ſe viſitent, celuy qui eſt viſité, donne la plus honorable main à celuy, qui le viſite … Apres qu'ils ſe font dicts l'vn à l'utre pluſieurs belles parolles, l'on porte ſoudain d'vn breuuage, qui eſt fait d'eau cuitte, auec certaine herbe

Yule and A.C. Burnell. 1903. *Hobson-Jobson: A Glossary of Colloquial Anglo-Indian Words and Phrases, and of Kindred Terms, Etymological, Historical, Geographical and Discursive*. London: John Murray).

5 James Dyer Ball. 1892. *Things Chinese, being Notes on Various Subjects Connected with China*. Hong Kong, Shanghai, Yokohama and Singapore: Kelly & Walsh Co. (p. 374).

6 Luís de Guzmán. 1601. *Historia de las Missiones qve han hecho los religiosos de la Compañia de Iesús, para predicar el sancto Euangelio en la India Oriental, y en los Reynos de la China y Iapon*. (two volumes). Alcala: la Biudade Iuan Gracian.

7 Fernão Guerreiro. 1603. *Relaçam Annal das Covsas qve fizeram os Padres da Companhia de Iesvs na India & Japão nos annos de 600. e 601. & do proceſſo da conuerſão, & Christandade daquelleas partes* (two volumes). Em Evora: Manoel de Lyra.

qu'ils appellent *Chia*. Or ce breuuage ne doibt iamais mãquer, autrement ce feroit vne grande faute en fait de compliment. On doibt porter de ce breuuage, pour le moins deux ou trois fois, auant qu'on fe defparte, & auec ce on donne quelque peu de fruict, ou quelque confiture. L'on prend auec vn petit cuilier ce breuuage.[8]

When they visit each other, they extend the most courteous hospitality to their visitors ... After they have spoken words of courtesy to each other, they promptly serve a beverage made of boiled water containing a herb which they call *Chia*. One cannot do without this beverage without bringing about a serious breach of courtesy. This beverage must be served at least twice or thrice before the visitor departs, often together with a bit of fruit or a sweet-meat. The beverage is taken with a small spoon.

Pierre du Jarric's three volumes were translated into Latin and published in Cologne in 1615 for a northern European audience.[9] Therefore, the earliest recorded English occurrence of *chaa* and the earliest surviving French instance of *chia* were secondary attestations. The French echoed Iberian originals, and the English was taken directly from a Dutch source, which in turn was based on Portuguese reports from Japan, gleaned in Goa. Therefore, the earliest attested forms for tea in all major Western European languages reflect attempts to represent the Japanese word *cha* 茶.

The Birth of Capitalism

Some have contended that Jan Huygen van Linschoten was a Dutch spy, for he wrote at a time of transition, when Holland had begun to take Portugal's place as sovereign of the seas in East Asian waters. To some extent this perception is anachronistic, for the vagaries of his own life must be seen against the backdrop of the shifting relations of the period. After the War of the Portuguese Succession (*gerebatur* 1580–1583), Portugal was ruled successively by three Habsburg kings, who were also the kings of Castille and Aragon.[10] This period of dynastic union between Portugal and Spain under the Habsburgs lasted until 1640, when John IV of Braganza ascended the Portuguese throne. Habsburg rule in Portugal therefore largely coincided with the Eighty Years War waged between the United Provinces that had formed the Dutch republic and the Habsburg dynasty from 1568 until the Peace of Münster in 1648.

Eleven years after the outbreak of the war against Habsburg rule, *de Republiek der Zeven Vereenigde Provinciën* 'the Republic of Seven United Provinces' was proclaimed on the 23rd of January 1579 at Utrecht. The name of the United Provinces also appeared in Latin on Dutch maps of the period as *Fœderata Belgica* or *Fœderatae Belgii Provinciæ*. The world looked quite different when Jan Huygen went to Seville at the age of sixteen in 1579 from when he returned to Holland at the age of twenty-nine in 1592. In 1595, the first Dutch seafaring company was established for trade in the East. The Dutch entered East Asian waters in 1596 led by

8 Pierre dv Jarric. 1610. *Seconde Partie de l'Hiſtoire des Choses plvs memorables advenves tant ez Indes Orientales, que autres païs de la defcouuerte des Portugais en l'eſtabliſſement & progrez de la foy Chreſtienne & Catholique: Et principalement de ce que les Religieux de la Compagnie de Iesus y ont faict, & enduré par le mefme fin. Depuis qu'ils y sont entrez iusqu'à l'an 1600*. Bordeavs [i.e. Bordeaux]: Simon Millanges, Imprimeur ordinaire du Roy (tome II, livre IIII, chapitre XVIII, pp. 529–530).

9 Nicolaes Tulp's fleeting mention of Iarricus evidently refers to the three-volume Latin translation published in Cologne, i.e. Petrus Iarricus. 1615. *Thesaurus Rerum Indicarum*. Coloniæ Agrippinæ: Petri Henningij [i.e. Peter Henning].

10 Philip II of Castille was also Philip I of Portugal and Aragon from 1581 to 1598. His son Philip III of Castille and León was also Philip II of Portugal and Aragon from 1598 to 1621. The grandson Philip IV of Castille and León was Philip III of Portugal and Aragon from 1621 to 1640, though he reigned in Spain until his death in 1665.

FIGURE 5.7 *De terugkomst in Amsterdam van de Tweede Schipvaart naar Oost-Indië* 'The return to Amsterdam of the second expedition to the East Indies', oil on canvas, 99.5 × 216 cm, painted by Hendrick Cornelisz. Vroom in 1599, Rijksmuseum, Amsterdam. The so-called *Tweede Schipvaart* under the command of Jacob Corneliszoon van Neck, Wybrandt van Waerwijck and Jacob van Heemskerck returned to Amsterdam on the 19th of July 1599 and was hailed as a grand success for the spice trade, but the first tea would arrive in Holland only eleven years and two days later. Here the ships *Mauritius, Hollant, Overijssel* and *Vrieslant* are depicted on the IJ surrounded by smaller vessels in the port of Amsterdam

Cornelis de Houtman on behalf of the *Compagnie van Verre* 'company of far away'. Unlike van Linschoten, Cornelis de Houtman really had conducted espionage for the Dutch in Lisbon with his brother Frederick from 1592 to 1594 in order to find out as much as he could about Portuguese trade routes to the East. Setting sail from Holland in April 1595, de Houtman established a belligerent presence in Bantam in June 1596, where the Dutch at once vied with the Portuguese for trade.[11]

In 1597, a competitor was born named the *Nieuwe Compagnie te Amsterdam*. A year later, five new Dutch companies were established, the *Magelhaensche Compagnie* 'Magellanic company', and a new company arose in each of the cities of Rotterdam, Veere and Middelburg: the *Rotterdamsche Compagnie*, the *Veersche Compagnie* and the *Middelburgsche Compagnie*. Soon they were joined by yet another company, the *Nieuwe Brabantsche Compagnie* 'new Brabant company'. In response to all this new competition, the two oldest companies merged that same year to form the new *Oude Compagnie* 'old company'.

In May 1598, a combined fleet of eight ships of two Dutch companies set sail for China from Texel under the command of Jacob Corneliszoon van Neck, Wybrandt van Waerwijck and Jacob van Heemskerck. Four of the ships belonged to the *Nieuwe Brabantsche Compagnie* and four to the *Oude Compagnie*. These ships were so successful in the spice trade in the East Indies that they never even made it to China. This fleet was just one of five expeditions numbering twenty-two Dutch vessels which had set sail for Asia in 1598. By 1600, Dutch ships had reached Ambon, Bali, Annam—as Vietnam was then known—and the sultanate of Pàtta:ni: ปัตตานี in what today is southern Thailand.

In 1600, the Dutch fought against the Portuguese at Macau, and in 1601 Jacob van Neck

11 G.P. Rouffaer en J.W. IJzerman. 1915, 1925, 1929. *De Eerste Schipvaart der Nederlanders naar Oost-Indië onder Cornelis de Houtman 1595–1597: Journalen, Documenten en andere Bescheiden* (three volumes). 's-Gravenhage: Martinus Nijhoff.

FIGURE 5.8 A now iconic painting of the interior of the Amsterdam stock exchange from around 1670 by Job Adriaenszoon Berckheyde, showing the expansion completed in 1668, with the caduceus of the statue of Mercury, the god of trade, visibly glinting in the sun on the left between the two arches, Museum Boijmans van Beuningen

was already trading in Canton.[12] The competition between these Dutch companies often turned into vicious rivalry. In 1600, the *Nieuwe Brabantsche Compagnie* merged with the *Oude Compagnie* to form the *Vereenigde Compagnie Amsterdam* 'United Company Amsterdam'. At roughly the same time, the two companies in Zealand merged to form the *Vereenigde Zeeuwsche Compagnie*. Between 1595 and 1601, no less than fourteen Dutch fleets comprising 65 vessels made the journey to the East, and this rivalry between competing Dutch companies had on occasion led to combat between Dutchmen. A matter of perhaps greater concern to the States General, however, was that this competitive rush to the East had caused the prices for pepper and spices in Asia to rise whilst depressing the prices for these commodities on the Dutch market due to a glut.[13] Therefore, in 1602 all

12 Isaac Commelin (1646, Vol. 1); J. Keuning. 1938, 1940, 1942, 1944, 1947, 1949, 1951. *De Tweede Schipvaart der Nederlanders naar Oost-Indië onder Jacob Cornelisz. van Neck en Wybrant Warwijck, 1598–1600* (five volumes, the fifth volume in three parts, the third part of which was edited by C.E. Warnsinck-Delprat rather than J. Keuning). 's-Gravenhage: Martinus Nijhoff.

13 Christine van der Pijl-Ketel. 2008. '*Kraak* porcelain ware salvaged from shipwrecks of the Dutch East Indies Company (VOC)', pp. 65–76 in Luísa Vinhais and Jorge

FIGURE 5.9
The enhanced VOC logo of the Dutch East India Company or *Algemeene Vereenigde Oost-Indische Compagnie* on a cannon at Desima island in Nagasaki

of these companies were merged to form the Dutch East India Company or *Algemeene Vereenigde Oost-Indische Compagnie*. Also involved in the merger were the newly established *Compagnie van de Moucheron* and the *Delftsche Vennootschap*, both of which had just been incorporated the previous year.

The Dutch East India Company was the first corporate entity in the world owned by its shareholders. The company's shares were freely tradable on the world's first stock market, which was opened that year in Amsterdam. This new clearing house for stocks and shares was quite unlike any of its precursors which had hitherto existed in Europe. The first stock market differed in quantity and in kind from the modest Mediterranean forward trade in state loans and futures practised from the 14th century at Verona, Genoa and Venice and the sporadic trade in shares and municipal loans which had subsequently come to be practised occasionally elsewhere in Europe.

Welsh, eds., *Kraak Porcelain: The Rise of Global Trade in the Late 16th and Early 17th Centuries*. London: Jorge Welsh Books.

The widely publicised stock exchange to which the Dutch East India Company gave birth was enriched in ensuing years by a fray of other enterprises with publicly tradable stock. The Amsterdam *Beurs* saw a volume of trade in shares and futures hitherto unseen. Likewise unprecedented was the speculative freedom of transactions in a highly fluid open market which characterised this first stock exchange. Here trade was already conducted in shares and financial instruments which would later come to be called futures and options.

Unifying all of the Dutch companies trading in Asia into a monopoly enabled Dutchmen to vie with the Portuguese in Asia without having to battle each other.[14] Yet the rivalry between the Dutch and the Portuguese remained acrimonious and bloody, and there was much ugliness on both sides. From 1602 onward, the Dutch East India Company (VOC, *Algemeene Vereenigde Oost-Indische Compagnie*) and the Dutch West India Company (GWC, *Geoctroyeerde West-Indische Compagnie*) waged war against the Portuguese in the Americas, Africa and in the Indo-Pacific arena.

Amor vincit omnia

After a harrowing journey plagued by numerous tribulations, the Dutch galleon *de Liefde* arrived at the island of Kuroshima 黒島 in the bay of Usuki 臼杵 in a ravaged state on the 19th of April 1600. The voyage had taken the ship to Kyūshū from *het Goereesche Gat* near Rotterdam, where a fleet of four ill-fated galleons and a yacht belonging to the *Magelhaensche Compagnie* set sail for Japan on the 27th of June 1598 by way of the Strait of Magellan. Their planned westward route across the Pacific was at the time a carefully guarded secret.

Out of the five piously named ships, the flagship *de Hoope* 'hope', the galleons *de Liefde* 'love', *de Trouwe* 'loyalty', *de Gelooue* 'faith' and the yacht *de Blijde Boodschap* 'the good news', the only vessel to arrive at the ultimate destination of Japan was *de Liefde*. The ship made landfall in Kyūshū with just two dozen survivors on board. Only six of the men could walk off of the ship, whereas the others had to be carried off. Six of these survivors died shortly after making landfall. The merchant Jan Joosten van Lodensteyn from the city of Delft and the Englishman William Adams of Gillingham in Kent were amongst those who settled in Japan and never left.[15]

Before their ship had joined the ill-fated fleet in Rotterdam, *de Liefde* had previously been named the *Erasmus*. The carved wooden figurehead of the Dutch humanist scholar Desiderius Erasmus, alias Gerhard Gerhards of Rotterdam, which had once adorned the transom on the stern of the ship, somehow managed to find its way from Usuki in 豊後 Bungo to the Ryūkō shrine 竜江院 at Sano 佐野 in Shimotsuke 下野 province, nearly a thousand kilometres further northeast. In this unexpected sanctuary, in what today is Tochigi 栃木 prefecture, Erasmus benefitted from a couple of centuries of regular oblations until a photograph of the figurehead was recognised in 1926 by a Dutchman at an exhibition in Italy on the history of the propagation of Christianity in the Orient. The figurehead is now kept at the Tōkyō National Museum. Several survivors of the sickly crew of *de Liefde*, that had made landfall at Usuki on the 19th of April 1600, ended up meeting the great *shōgun* Tokugawa Ieyasu 徳川家康.

In the wake of *de Liefde*, Dutch vessels would come to Japan by the conventional route via the East Indies after rounding the Cape of Good Hope. *De Liefde* made an awkward but memorable entrance, for the Dutch had attempted to reach the fabled land of *Cipangu* from the Low Countries both via the eastward route and by the westward route. Their presence in Japan was to grow and endure, but only after overcoming Portuguese maritime defences could the Dutch establish their

14 Groeneveldt (1898).

15 Dirk Jan Barreveld. 2001. *The Dutch Discovery of Japan*. Lincoln, Nebraska: Writers Club Press.

FIGURE 5.10 The wooden figurehead or *hekbeeld* of the humanist scholar Desiderius Erasmus adorned the transom of the ship *De Liefde*, photographs of the 'Erasmus figure' or エラスムス像 by Taguchi Yoshiaki 田口義明 and Taguchi Jun 田口純 of Anjin 按針 gas appliances and plumbing company, in the city of Yokosuka 横須賀 in Kanagawa 神奈川 prefecture, during a special visit to the Tōkyō National Museum on the 5th of September 2015

first *factorij* under the directorship of Jacob Speckx on the island of Hirado 平戸 on the western side of Kyūshū in 1609.

In 1604, just five years before establishing a presence in Japan, the Dutch had reached Amoy, where they began trading with Fukien. In 1609, *De Heeren XVII* 'the Lords Seventeen' in Amsterdam established a *Raad van Indië* 'Council of the Indies', headquartered in Jakarta in order centrally to govern the *comptoirs* and *factorijen* of the Dutch East India Company in Asia. Pieter Both (1568–1615) of Amersfoort was dispatched to Java to serve a four-year term as the first governor general from 1610 to 1614.[16] Jakarta became the Dutch headquarters for the Asian trade in tea, spices and porcelain, with

16 Previously Both had captained a fleet of four ships to Bantam in 1599 for the spice trade on behalf of the Nieuwe Brabantsche Compagnie, returning to Holland in 1601.

FIGURE 5.11 *Factorij der Nederlanders op Firato 1609–1641* 'The Dutch *factorij* at Hirado 平戸 from 1609 to 1641' (von Siebold 1823)

wares from China and the Indies bound for the ports of Amsterdam, Enkhuizen, Hoorn, Middelburg and Rotterdam.

Jan Pieterszoon Coen, the Dutch governor general, was sailing to the Moluccas when the admiral Thomas Dale of the English East India Company seized the Dutch fort at Jakarta on the 1st of February 1619. The *pangeran* or emir of Jakarta sided with the English and appropriated all the money, jewels and merchandise from within the fort. Three days later, Dale was compelled to beat a retreat when a local governor of the sultan of Bantam, siding with the Dutch, showed up with reinforcements. On the 12th of March, the Dutch commander Pieter van Raay defiantly renamed the fort Batavia, which is the old Latin name for Holland. On the 28th of May, Coen returned, and eighteen Dutch men-o'-war dropped anchor just off the coast of Batavia. On the 30th of May, the fifteen remaining English ships were chased away. During the reconquest most of Jakarta went up in flames in retaliation for the connivance of the *pangeran* with the English. The city itself was formally renamed Batavia in 1621. At this time, Coen also tried to compel Chinese traders and junk captains in Fukien to trade exclusively with the Dutch.[17]

During this period, the Dutch attempted to seize Macau from the Portuguese, attacking the city four times unsuccessfully, the last attempt undertaken by Cornelis Reijersen in June 1622. After this failed assault, the ships under Reijersen's command sailed instead to the Pescadores, where they established a fort from which they could control the Formosa Strait and the Fukien trade.[18] In 1624, the Dutch set up Fort Zeelandia on a small sandy islet known by the indigenous local Formosan aboriginal name of Taiyouan. Later shifting sands joined this island to the Formosan coast, where today this former sandbar forms part of the Ānpíng 安平 district of the city of Táinán 臺南. From Taiyouan the Dutch extended their control

17 Groeneveldt (1898: 67).
18 Groeneveldt (1898: 83–92).

FIGURE 5.12
The *shōgun* Tokugawa Ieyasu 德川家康 (*regnabat* 1603–1616), founder of the Tokugawa shōgunate, painting on hanging scroll by Kanō Tan'yū 狩野探幽 (1602–1674), Ōsaka castle collection

over the entire island of Formosa, which they held until 1662. In 1664, they retook Keelung (*Jīlóng* 基隆), which they then again abandoned in 1668. In the beginning of the Qīng dynasty, Taiyouan, the local place name for the sandy site of Fort Zeelandia in the aboriginal and now extinct Siraya language, was adopted as the new Chinese name for the entire island as Táiwān 臺灣.

Meanwhile in Japan, whilst the Jesuits and their Japanese converts had once enjoyed the

favour of Oda Nobunaga, who had even received a Mozambican youth who came to be named Yasuke 弥助 as a gift from Valignano, Christians in Japan had suffered greatly under Nobunaga's successors. In 1597, six years after Toyotomi Hideyoshi had ordered Sen no Rikyū's ritual suicide, he initiated the persecution of Roman Catholics in Japan by putting 26 converts to death. From this time onward, Christianity generally fell out of favour. Unlike on Formosa, where Dutch trade stood little to lose or gain from catechising aboriginal peoples of the island, the Dutch fastidiously refrained from proselytisation in Japan. Riding the rising tide of suspicion on the part of Japanese officialdom against the *nanban* 南蛮 'southern barbarians', the Dutch colluded against the Portuguese.

As a result of Dutch influence, in 1635 the *shōgun* Tokugawa Iemitsu issued the *sakoku* 鎖国令 'enchained country' edict, which forbade Roman Catholicism, a measure directed specifically against the Portuguese, and Japanese foreign trade other than with China via the Ryūkyū Islands and with Korea was restricted to the Dutch East India Company. The edict also forbade any Japanese living in Batavia, Macau or other places outside of Japan to return to Japan upon pain of death. Europeans other than agents of the Dutch East India Company would also face execution upon entry into Japan, whilst children of mixed Japanese and foreign ancestry were expelled from the country.

In December 1637, the Shimabara rebellion broke out, led by Catholic converts, who had long endured both extortionate fiscal oppression and vicious religious persecution. During this revolt, which lasted until April 1638, Nicolaes Couckebacker, chief trader or *opperhoofd* at 'Firando', i.e. Hirado 平戸, in an attempt further to secure the Dutch upper hand over the Portuguese, sided with the Tokugawa shōgunate against the Japanese Christians. This alliance actually culminated in an ignominious Dutch attack and slaughter of Catholic converts. In the aftermath of the rebellion, the practice of Christianity in the archipelago was forced underground, and by 1639 the Portuguese had been forced out of Japan.

For over two centuries, until 1853, Dutchmen were the only Westerners allowed to maintain a presence and to trade in Japan, where they were referred to by the descriptive term *kōmō hito* 紅毛人 'red-furred people', a pejorative expression also used to denote Dutchmen by the Hokkien Chinese in Fukien, Formosa, Java and Malacca as *âng-mn̂g-lâng* 紅毛人 [aŋ ˧ mŋ̍ ˧ laŋ ˧] 'red-furred people'. The *sakoku* edict instituted a policy of national isolation, during which the Japanese learnt about Occidental science through Dutch sources, giving rise to the term *rangaku* 蘭学 'Dutch learning' to denote Western scientific knowledge. One of the famous later schools of Dutch learning was the medical school for samurai named Tekijuku 適塾 at Senba 船場, founded by Ogata Kōan 緒方洪庵 in 1838. One of the students who studied medicine and gained a mastery of the Dutch language at this school was Fukuzawa Yukichi 福澤諭吉 of Nakatsu 中津, who later established Keiō 慶應 University as a school of *rangaku* or Dutch learning in 1858.

The Flemish Roman Catholic seaman Carolus van der Haeghe, who deserted the Dutch East India Company in Batavia in 1702 and fled to Manila, recorded a vivid example of how the *sakoku* edict was enforced by Japanese Ryūkyū islanders as well as by the Japanese at Desima during this period. When the Flemish seaman fled from the Spanish in the Philippines, together with five companions on a stolen Philippine sailboat just ten metres long, they attempted to sail to Canton. However, they headed north, veering slightly eastward rather than westward, thereby missing Formosa and entering the Ryūkyū Islands via Iriomote-jima. Fortunately, they did not deviate from a straight northbound route too strongly because these runaways were uncertain about whether they should veer to the east or to the west on their northward voyage. Once they were sighted by the Japanese in the Ryūkyūs on the 6th of July 1704, they were apprehended and held on their sailboat and submitted to a test by the Japanese, who ...

> … brogten ons een geschildert schip aan boord met de Prince vlagge op, vraegde wat het was. Ik kende het dadelijk, wees hun Hollands ende Oost-Indische Compagnie 't welk sij verstonden. Weesen ja, en dat zij ons daarbij zoude brengen daarover wij ons verblijd thoonden.[19]

> … brought us on board the painted model of a ship bearing the Prinsenvlag [i.e. Prince's Flag, the original Dutch tricolour][20] and asked us what it was. I recognised it at once and told them that it was Dutch and the East India Company, which they understood. They then indicated that they would take us there, at which we showed our delight.

By the time that Carolus van der Haeghe reached Desima 出島, where the Dutch East India Company was headquartered in Japan, he was to be less delighted. The name of this 1½ hectare arc-shaped artificial island, which was connected to the waterfront of the city of Nagasaki by a single small bridge, is written in early Western sources variously as *Desima*, *Desjima*, *Decima* and is now written 'Dejima' in the modern Japanese romanisation known as Rōmaji.[21]

The Dutch immediately incarcerated him as a runaway. As a deserter from the Dutch East India Company, van der Haeghe was supposed to receive a mandatory death penalty, which he somehow managed to escape. In fact, his whole diary, which was fortunately confiscated and preserved, is a tale of one extraordinary stroke of good luck after another. During the proceedings in Desima in August, they investigated his possessions and found three printed Roman Catholic books written in Dutch, containing pictures of the passion of Christ, the crucifix, the Holy Virgin Mary and various saints, both male and female. The sight of these possessions, which were also studied by the Japanese authorities, alarmed the Japanese, whose concerns could only be allayed by the assurance that this papist renegade would be executed in Batavia.[22]

In January 1641, the Dutch wrested Malacca from the Portuguese, who had established themselves there in 1511. Previously, the Dutch under Cornelis Matelieff de Jonge had unsuccessfully laid siege to Malacca in 1606, and in 1613 the Portuguese retaliated by attacking Singapore (*Siṃhapura* सिंहपुर, Malay *Singapura*), a tiny originally Hindu Malay kingdom that the Dutch used as a trading post. This tiny Hindu kingdom had been founded in the early

19 Jan Parmentier en Ruurdje Laarhoven. 1994. *De avonturen van een VOC-soldaat: Het dagboek van Carolus van der Haeghe 1699–1705*. Zutphen: Walburg Pers (p. 133).

20 From the 1570s, the *Prinsenvlag* 'prince's flag' was a tricolour consisting of three horizontal bands in the colours *oranje, blanje, bleu* 'orange, white, blue'. The orange dye was made from madder *Rubia tinctorum*, known in Dutch as *meekrap*, from which a red dye was extracted, and weld *Reseda luteola*, known in Dutch as *wouw*, from which a yellow dye was extracted. The yellow component was prone to fading in sunlight. The earliest attested description of the tricolour in terms of a red, white and blue flag dates from as early as 1596, and by the middle of the 17th century most flags already effectively sported a red band on top. The invasion of French troops in 1794 heralded the definitive demise of the original Prince's flag. In March 1796, the States General of the Batavian Republic decreed that red, white and blue were the official colours of the Dutch tricolour. The historical recollection of *oranje, blanje, bleu* 'orange, white, blue' as representing the colours of the national flag never faded from the collective memory, however. From 1928 to 1994, the flag of the *Unie van Suid-Afrika* 'Union of South Africa' (after 1961 the *Republiek van Suid-Afrika* 'Republic of South Africa') faithfully followed this original colour scheme of the tricolour of the Dutch revolt. The lingering ambiguity prompted prime minister Hendrik Colijn to have queen Wilhelmina sign a royal decree in February 1937, specifying that the colours of the Dutch national flag were red, white and blue.

21 Thomas Salmon. 1729. *Hedendaegsche Historie, of Tegenwoordige Staet van alle Volkeren; in opzigte hunner Landsgelegenheit, Perſonen, Klederen, Gebouwen, Zeden, Wetten, Gewoontens, Godsdienſt, Regering, Konſten en Wetenſchappen, Koophandel, Handwerken, Landbouw, Landziektens, Planten, Dieren, Mineralen en andere zaken tot de natuurlyke Hiſtorie dienende*. Amsterdam: Isaak Tirion.

22 Parmentier en Laarhoven (1994: 156–157).

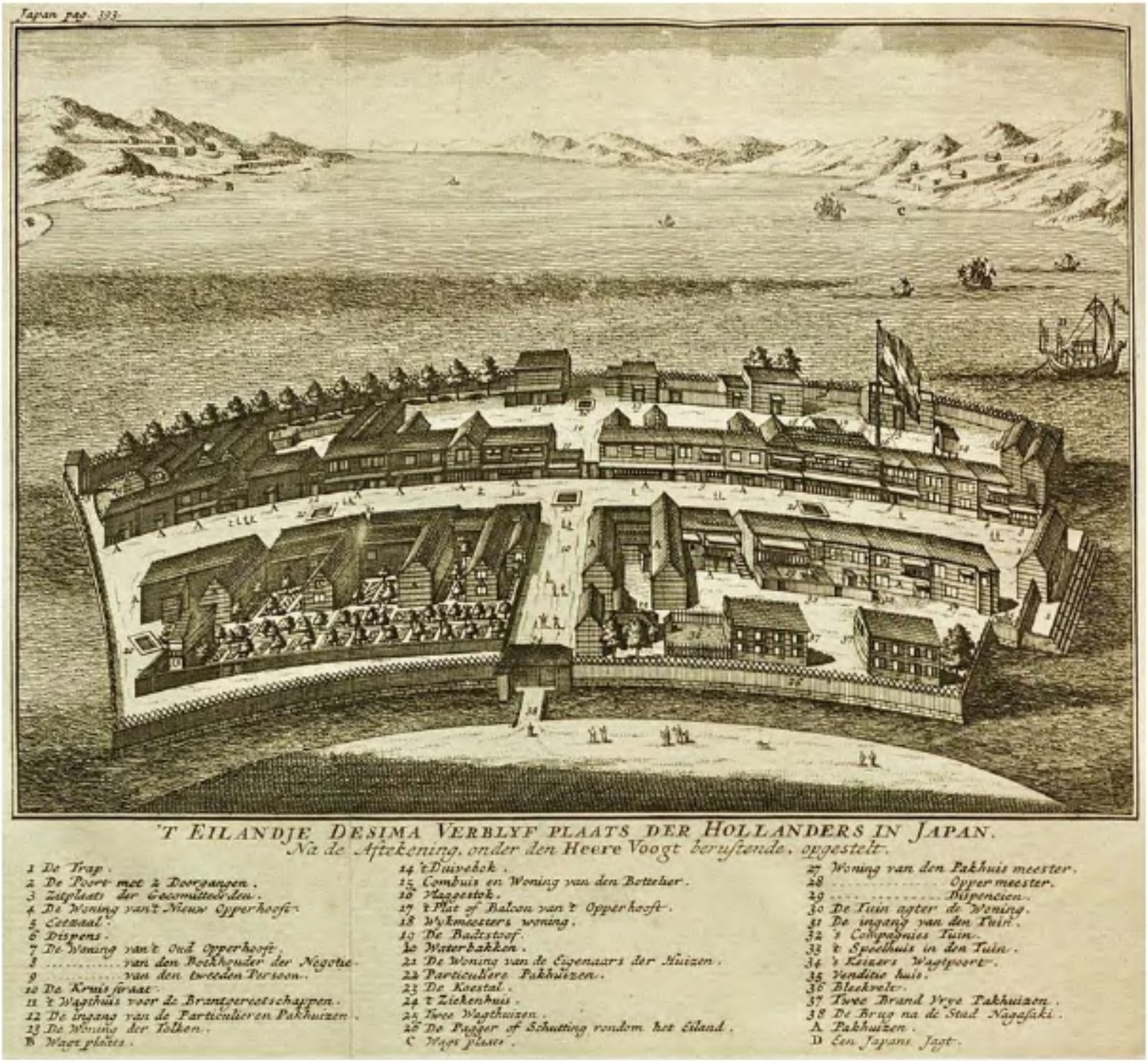


FIGURE 5.13 *'t Eilandje Desima Verblyf plaats der Hollanders in Japan* 'the small island of Desima, the place of sojourn of Dutchmen in Japan' (Salmon 1729)

14th century by a prince from Palembang of the *Śrīvijaya* श्रीविजय kingdom on Sumatra.[23] In 1622, the Dutch East India Company fleet even maintained an eponymous yacht named *Sincquapura* in the East Indies.[24] The seizure of Malacca in 1641 gave the United Provinces control over the Strait of Malacca, where they continued to assert the strongest military presence until after the Napoleonic wars. The Dutch held Malacca until 1825, but from 1795 to 1818 Malacca was occupied by Britain, during the Napoleonic wars, to pre-empt a seizure of this strategically important Dutch port city by the French.

Then in 1652, the Dutch established the Cape Colony at the southern tip of Africa under Jan van Riebeeck. On Ceylon, the Dutch seized Colombo from the Portuguese in 1656 and entirely replaced the Portuguese on Ceylon by 1658. The Dutch likewise drove out the Portuguese from southern

23 Jean E. Abshire. 2011. *The History of Singapore*. Santa Barbara, California: American Bibliographic Center Clio (pp. 18–19).

24 (Groeneveldt 1898: 364).

FIGURE 5.14 The capture of Cochin in 1662

India and occupied Nagapatnam, Cranganore and Cochin in 1662. Although the Portuguese managed to maintain Macau, Goa, Daman and Diu and a few other Asian footholds, the Dutch had largely replaced them in the Indian Ocean and Far East. The Dutch established factories and godowns in Àyútthăya: in 1608, in Hirado in 1609, in Pulicat on the Coromandel coast in 1613, in Surat in Gujarat as well as in Mocha in Yemen in 1616, at Palembang in Sumatra in 1619, in Formosa in 1624 and at Shiraz and Isfahan in 1625.

Decades later, on the 1st of December 1700, Willem Bosman, a merchant in the employ of the Dutch West India Company (GWC, *Geoctroyeerde West-Indische Compagnie*), would write from the Dutch Gold Coast that:

> En waarlijck het fcheen in voorige tijden, dat de Portugeefe Landaard aan andere Landen, en Mogentheden diende voor Bracken, om het Wild voor dezelve op te fpooren, als wanneer die dan quamen om 'er haar van te ontlaften, en het in eygendom na figh te nemen.[25]

25 Willem Bosman. 1704. *Nauwkeurige beschryving van de Guinese Goud- Tand- en Slave-Kust: Nevens alle desfelfs Landen, Koningryken, en Gemenebesten, Van de Zeeden der Inwoonders, hun Godsdienft, Regeering, Regtspleeging, Oorlogen, Trouwen, Begraven, enz. mitsgaders De gefteldheid des Lands, Veld- en Boomgewaffen, alderhande Dieren, zo wilde als tamme, viervoetige en kruipende, als ook 't Pluim-gedierte, Viffen en andere zeldzaamheden meer, tot nog toe de Europeërs onbekend.* t'Utrecht: Anthony Schouten (p. 3 in 'Eerste Brief ... den eerften December 1700. Gedagteekent').

FIGURE 5.15 The regular VOC logo atop a gate to a house in the town inside the old Dutch fort of Cochin

> And verily it seems as if in previous times the role of the Portuguese for other countries and powers was to serve as scouts, to track down and flush out the game so that, when the others came along, they could relieve the Portuguese thereof and take possession of it themselves.

In Asian waters, the Dutch stronghold at Batavia occupied a strategic position between the Indian Ocean and the Orient. In this tapestry of events marking Dutch ascendancy over Portugal, the Dutch dropping anchor at Amoy in 1604, eighty-eight years after the Portuguese had first reached Amoy, was a decisive event in determining why tea came to be called tea.

The Japanese Word Is Replaced by the Hokkien Word

In 1604, Wybrandt van Waerwijck arrived at the Pescadores and attempted in vain to secure permission to trade at the port of Amoy, which the Portuguese had first visited in 1516. At Amoy his ship was visited by a fleet of junks and urged to withdraw. After the Dutch attempted unsuccessfully to expel the Portuguese from Macau during a three-day siege in June 1622, they seized the Pescadores and built a fort. Between 1622 and 1624, the Dutch East India Company raided Fukien ports in an attempt to compel the Míng government to evict the Portuguese from Macau and open up Fukien ports to Dutch East India Company ships. In the end, the Dutch were compelled to withdraw from the Pescadores back to Formosa. From this position just across the Strait of Formosa, the

Dutch managed, from 1624 until 1662, to trade in tea from their base at Fort Zeelandia, where they were supplied with tea by Hokkien junks directly from Fukien.

From 1662, the Dutch were permitted to establish a *comptoir* for the trade in tea, silk and porcelain at Hoksieu 福州 (*hok-tsiu* [hɔk ˧ tɕiu ˥], Mandarin *Fúzhōu*). The English East India Company began trading at Amoy, where they set up a factory in 1678. From 1681, the Manchu government imposed various restrictions, effectively hampering profitable trade by Europeans at Amoy, so that trade shifted to Hoksieu. The Manchu government once again opened up the port of Amoy to European traders in 1685.[26] The Manchu government continued to impose sundry restrictions on European traders, and in 1690 the Dutch East India Company abandoned efforts to secure satisfactory conditions at Qīng dynasty ports, leaving the trade between China and Batavia to Chinese junks and Portuguese vessels.[27]

To this day, when a tea merchant in Amoy says the word for 'tea' in his native Hokkien dialect, his *tê* 茶 sounds to Dutch ears just like the Dutch word *thee*. This is hardly surprising, since the Dutch *thee* was taken directly from the Amoy Chinese *tê* 茶 [te ˨˦].[28] The original name of the city of Amoy 下門—*Emoi* in Dutch[29]—literally meant 'lower gate' because of its location at the mouth of the *Káu-lîng* 九龍 [kau ˥˧ liŋ ˨˦] or Nine Dragons River. Today the Fukienese city of Amoy 廈門 more often appears on maps under its northern Chinese or Mandarin[30] name *Xiàmén*, but the original name, as pronounced by the native inhabitants of the city, is *Ē-mn̂g* 廈門 [e ˧ mŋ̍ ˨˦], as romanised in Pe̍h-ōe-jī 白話字 'pure speech transcription'.[31]

The Western names for the city of Amoy 廈門 as well as for the island of Quemoy 金門 derive directly from the Changchew 漳州 Hokkien (Mandarin: *Zhāngzhōu*) pronunciations [e ˧ muĩ ˩˨] 廈門 and [kim ˦ muĩ ˩˨] 金門 respectively, since the Changchew variety of Hokkien is spoken not just in the area to the south of Amoy but also in many Chinese settlements throughout the Indone-

26 Philip Wilson Pitcher, missionary of the Reformed Dutch Church at Amoy. 1893. *Fifty years in Amoy or A History of the Amoy Mission, China, founded February 24, 1842*. New York: Board of Publication of the Reformed Church in America (pp. 31–32).

27 John E. Wills, Jr. 1993. 'European consumption and Asian production in the seventeenth and eighteenth centuries', pp. 133–147 in John Brewer, Roy Porter, eds., *Consumption and the World of Goods*. London: Routledge (p. 144).

28 Phonetic transcriptions between square brackets are represented in the notation of the International Phonetic Association (IPA), and the tone letters are based on the now conventional five-tiered schema invented by Yuen Ren Chao [趙元任] (1930). Hokkien forms are given in Pe̍h-ōe-jī romanisation (Rev. John MacGowan. 1883. *English and Chinese Dictionary of the Amoy Dialect*. Amoy, China: A.A. Marcal; Rev. Carstairs Douglas. 1899. *Dictionary of the Vernacular of Spoken Languages of Amoy, with the Principal Variations of the Chang-Chew and Chin-Chew Dialects*. London: Publishing Office of the Presbyterian Church of England; 《臺灣閩南語常用詞辭典》 ⟨http://twblg.dict.edu.tw/holodict_new/index.html⟩), accessed December 2014.

29 The Dutch spelling *Aymuy* is also attested in the proceedings of the Haagsche Besoigne of 1729 (Jonkheer mr. Johan Karel Jakob de Jonge, red. 1877. *De Opkomst van het Nederlandsch gezag over Java: Verzameling van onuitgegeven stukken uit het Oud-Koloniaal Archief. Zesde Deel*. 's Gravenhage: Martinus Nijhoff, blz. 126).

30 The northern Chinese dialect which has become the official language of China is known as *Mandarin* in English and as *guóyǔ* 國語 'national language' in the Republic of China on Táiwān 臺灣 and as *pǔtōnghuà* 普通話 'common speech' in the People's Republic of China. The term derives from the Portuguese name *mandarim* to designate Chinese officials speaking the northern Chinese dialect in southern China. The Portuguese word derives from Indic मंत्री *mantrī* 'minister' via Malay *manteri*.

31 The diacritics used to indicate the seven tones in Pe̍h-ōe-jī romanisation, arranged by traditional tone class, may be illustrated as follows: 1 *yīnpíng* 陰平 'dark level' tone (e.g. tang 東 'east'), 5 *yángpíng* 陽平 'light level' tone (e.g. tâng 銅 'copper, bronze, brass', alternatively written as tăng), 2 *yīnshàng* 陰上 'dark rising' tone (e.g. táng 董 'to rule, supervise, oversee'), 6 *yángshàng* 陽上 'light rising' tone (no example), 3 *yīnqù* 陰去 'dark departing' tone (e.g. tàng 凍 'freeze, congeal, coagulate'), 7 *yángqù* 陽去 'light departing' tone (e.g. tāng 動 'move, shake'), 4 *yīnrù* 陰入 'dark entering' tone (e.g. tak 觸 'to ram, butt, gore'), 8 *yángrù* 陽入 'light entering' tone (e.g. ta̍k 逐).

FIGURE 5.16 The GWC logo of the Dutch West India Company (*Geoctroyeerde West-Indische Compagnie*) atop a gable of a warehouse from 1642 at 's Gravenhekje in Amsterdam
PHOTOGRAPH BY JAAP HOFSTEE, VLAARDINGEN

sian archipelago and the Malay peninsula. The language of Amoy is a Hokkien dialect, and *hokkiàn* 福建 [hɔk ˦ kɪɛn ˩] or [hɔk ˥ kɪɛn ˩][32] is the native name for the Chinese province of Fukien (Mandarin *Fújiàn*). The Hokkien dialects spoken along the Fukien coast are a historically prominent and economically important subgroup of the Southern Sinitic languages, referred to collectively in Mandarin as *Mǐn yǔ* 閩語.

The Portuguese and the Dutch were not the only maritime traders to put into port at Amoy. Arabian traders had been coming to the East for much longer, and the Hokkien themselves were great Amoy 廈門 maritime traders, although the sea trade of Hokkien mariners had a chequered history. In 1371, the Hóngwǔ 洪武 emperor (*imperabat* 1368–1398) imposed the Sea Ban (*hǎi jìn* 海禁), which forbade Chinese to sail overseas upon penalty of death upon their return. Overseas communities of Hokkien traders consequently became permanent merchant settlements at Surabaya and Bantam on Java, Palembang on Sumatra, Àyúttháyaː อยุธยา in Siam, the sultanate of Pàttaːniː ปัตตานี, at Faifo (modern Hội An) in the Champa kingdom, at Malacca on the Malay peninsula and in the Sulu archipelago.[33]

In 1547, the viceroy Zhū Wán 朱紈 lifted the ban for the Fukienese traders, thus reactivating the once robust Hokkien trade network throughout

32 The two different tonal contours indicated for the first syllable represent the Amoy and the Chinchew pronunciations respectively.

33 Wang Gungwu. 1990. 'Merchants without Empire: The Hokkien sojourning communities', pp. 400–421 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

FIGURE 5.17
The first ship bearing tea to Europe was named *de Roode Leeuw met Pijlen* 'the red lion with arrows', which was common parlance for the *Generaliteitsleeuw* 'lion of the federal union' in the coat of arms of the United Provinces, although in fact the escutcheon and not the lion rampant was red.

insular and mainland Southeast Asia.[34] Hokkien communities were established in Manila from the 1570s and in Nagasaki from 1600, later also in the capital of the Dutch East Indies at Batavia. During the heyday of the tea trade in the second half of the 17th and first half of the 18th centuries, the Amoy trade network spanned the entire Chinese coastline and maintained a vibrant maritime trade network throughout the South China Sea to as far as the Dutch East Indies and Siam.[35]

In addition to the Hokkien dialects of Amoy 廈門 and Changchew 漳州, a third and equally prominent variety of Hokkien is the 泉州 Chinchew dialect (Mandarin: *Quánzhōu*) spoken to the north of Amoy at the important former Dutch trading post of Chinchew 泉州.[36] Marco Polo visited the city at the end of the 13th century, but mentioned it under its Arabic name *Zaytun*. This Arabic name comes from Hokkien *tshì-tông* 刺桐 [tɕʰi ˨˩ tɔŋ ˧˥] or [tɕʰi ˥˧ tɔŋ ˧˥],[37] the name for the

34 Dahpon David Ho. 2011. *Sealords Live in Vain: Fujian and the Making of a Maritime Frontier in Seventeenth-Century China*. University of California at San Diego Ph.D. thesis.

35 Hugh R. Clark. 1990. 'Settlement, trade and economy in Fukien to the thirteenth century', pp. 35–62 in Eduard B. Vermeer, ed., *Development and Decline of Fukien Province in the 17th and 18th Centuries*. Leiden: Brill; Chang Pin-Tsun. 1990. 'Maritime trade and local economy in late Ming Fukien', pp. 63–82 in Vermeer (op.cit.); Lin Ren-Chuan. 1990 'Fukien's private sea trade in the 16th and 17th centuries', p. 163–216 in Vermeer (op.cit.); Ng Chin-keong. 1900. 'The South Fukienese junk trade at Amoy from the 17th to the early 19th centuries', pp. 297–316 in Vermeer (op.cit.); Ng Chin-keong. 2014. *Trade and Society: The Amoy Network on the China Coast, 1683–1735* (2nd edition). Singapore: National University of Singapore Press.

36 The name of the city of 泉州 Chinchew or *Quánzhōu* is romanised as *Chôanchiu* in Pe̍h-ōe-jī romanisation and as *Tsuântsiu* in Taiwan. The city is mentioned in 17th-century Dutch sources as *Chincheeuw, Chincheo, Chinchieu, Chincheo* or *Chinchou* (Groenveldt 1898: 16, 35, 37, 127, 139).

37 *Erythrina variegata* 刺桐 is romanised as *chhì-tông* in Pe̍h-ōe-jī romanisation and as *tshì-tông* in Taiwan. The two tonal contours indicated for the first syllable represent the Amoy and the Chinchew pronunciations respectively. The Changchew tonal contours are [tɕʰi ˥˧ tɔŋ ˩˧] (Helen T. Chiang. 1967. 'Amoy Chinese tones', *Phonetica*, 17 (2): 100–115; Alan Lee. 2005. *Tone Patterns of Kelantan Hokkien and Related Issues in Southern*

Indian coral tree *Erythrina variegata*, which was once abundant there. Distinct but closely related to Hokkien are the two important languages Teochew 潮州 [tio˥ tsiu˧], made famous by the worldwide diaspora of its speakers, and the 香山 Heungsan dialect spoken in Zhōngshān 中山 alongside the Pearl River delta.

A new romanised spelling *té* for the Hokkien word for tea 茶 was introduced as part of the orthography called *Bbánlám Pìngyīm*, a system of romanisation invented in 1982 at Xiàmén University for the Amoy dialect of Southern Mǐn as an alternative to the older Hokkien Church romanisation known as Pe̍h-ōe-jī 白話字 'pure speech transcription'. In Táiwān, this new system for romanising Amoy Chinese is often referred to as *pǔmǐndiǎn* 普閩典 'general Hokkien transcription'. By contrast, in the Modern Literal Taiwanese system, developed in Taipei, the spelling *tee* is used instead. The Pe̍h-ōe-jī transcription for the Hokkien word for tea is *tê* 茶. The Pe̍h-ōe-jī romanisation was developed in the 1830s, and none of the newer alternative systems has yet been as successful, and no other romanisation can boast as long a tradition of continuous use. However, the use of Pe̍h-ōe-jī has either been banned or officially discouraged at several junctures in history because of its association with the proselytisation of Christianity, and in particular the Taiwanese transcription system is rapidly gaining ground.

The result is that, from a phonological point of view, Hokkien, despite its historical and economic importance, remains basically an unwritten language, except that one can to a limited and imperfect extent read Written Chinese as if it were Hokkien. In phonological terms, Amoy Hokkien has five distinctive tones, two of which can occur as abbreviated allotones in checked syllables ending in an occlusive. Whether one chooses the acute accent, the circumflex or an orthographic doubling of the vowel to represent the tone, the vowel in the word for tea is pronounced in the *yángpíng* 陽平 'light level' tone class, which in Amoy and Chinchew Hokkien has a rising tonal contour which can be represented either as ˨˦ (24) or as ˧˥ (35). In the closely related Teochew 潮州 dialect of the eastern Cantonese littoral, the word for tea has nearly the same pronunciation as in Amoy but with a high level tone,[38] i.e. Teochew te^{55} 茶 [te˥].

To a Dutch ear in the 17th century unfamiliar with phonological tone, the Amoy Hokkien tone, clearly enunciated, must have sounded just like the modern Dutch *thee* in a schoolmasterly intonation. Tea is not the only Fukienese word to enter Western languages. The European name for Japan derives from Hokkien *jit-pún* 日本 [dzit˥ pun˥˧] and the Dutch words *loempia* 'spring roll', *taugè* 'bean sprouts' and *tahoe* 'bean curd' were taken directly from Hokkien *lūn-piánn* 潤餅 [lun˨ piã˥˧], *tāu-gê* 荳芽 [taʊ˨ ge˨˦] and *tāu-hū* 荳腐 [taʊ˨ hu˨].[39] Hokkien is also the language spoken by many Chinese traders and merchants in the East Indies, at Surabaya, Singapore and Medan.

Hokkien is also the language spoken by the Chinese from Fukien who were transported to Táiwān in the 17th century by the Dutch East India Company in an attempt to settle the island with Hokkien merchants and farmers who could

Min Tonology. Philadelphia: University of Pennsylvania doctoral dissertation; Ching-ting Chuang, Yueh-chin Chang, Feng-fan Hsieh. 'Complete and not-so-complete tonal neutralisation in Penang Hokkien', pp. 54–57 in *Proceedings of the International Conference on Phonetics of the Languages in China*. Hong Kong: City University of Hong Kong).

38 In the Hànyǔ-Pīnyīn-inspired Cháoyǔ Pīnyīn 潮語拼音 system developed by the Canton Education Department in the 1960s, the Teochew pronunciation of 茶 'tea' is romanised as $dê^5$.

39 Dutch speakers from families with a Dutch East Indian colonial background, who have long been familiar with bean curd, use the traditional Dutch word *tahoe*. Dutch people who have only recently gained familiarity with bean curd, for example through health food stores in other Western countries, now sometimes use the English word *tofu* [< Japanese *tōfu* 豆腐] because their families have no traditional family familiarity with bean curd or with East Asian cuisine. The tonal contours indicated in the Hokkien forms represent the pronunciation of Amoy 廈門, whereas some of the phonological tones have different phonetic realisations in the dialect of Changchew 漳州 and the dialect of Chinchew 泉州.

FIGURE 5.18 The painting *Bewindhebbers der kamer Hoorn van de VOC* ‘directors of the Hoorn chamber of the Dutch East India Company’ gives an impression of what the *Heeren XVII* or Lords Seventeen in Amsterdam may have looked like. Portrayed here are Outger Crap, Dirk van Suchtelen, Cornelis Ment, François van Bredehoff, Jacob van Sander, Cornelis de Groot and Nicolaes Carbasius, oil on canvas, 342 × 283 cm, painted by Jan de Baen in 1682, Westfries Museum, Hoorn.

be taxed, since no appreciable revenue could be extracted from the aboriginal peoples who lived from hunting, fishing and subsistence farming.

Dutch seamen first heard the Hokkien word for tea in Amoy in 1604. The Japanese word *cha* was reported by van Linschoten in 1596, but instead the Hokkien word [te ˦] 茶 for tea, whether romanised as *tê* or more recently as *tee* or *té*, was heard by Dutch seamen time and again from the mouths of their Hokkien trading partners and quite rapidly became the Dutch word *thee* ‘tea’.

Tea Comes into Vogue in the Low Countries

As soon as the Dutch *factorij* at Hirado 平戸 was established in 1609, small quantities of tea leaves and green powdered tea in earthenware jars were brought to Holland via Bantam in 1610.[40] The first

40 William Milburn. 1813. *Oriental Commerce; Containing a Geographical Description of the Principal Places in the East Indies, China and Japan, with Their Produce, Manufactures and Trade, including the Coasting or Country Trade from Port to Port; also The Rise and Progress of the Trade of the Various European Nations with the Eastern World, Particularly that of the East India Com-*

FIGURE 5.19 The *Oost-Indisch Huis* 'East Indian House', headquarters of the Dutch East India Company on the *Oude Hoogstraat* in Amsterdam, historical bastion of capitalism and the first multinational
PHOTO COURTESY OF PIEN WILBRINK

two Dutch merchantmen to moor at Hirado on the 4th of July 1609 were the *Griffioen* 'griffin' and the *Roode Leeuw met Pijlen* 'red lion with arrows'. The latter ship, carrying the first tea from Japan to Europe, set sail for Bantam on the 2nd of October 1609 and ultimately dropped anchor at Texel on the 21st of July 1610.[41]

The name of the ship bearing the first tea from Japan to Europe derives from the coat of arms of the Dutch republic. In the Netherlands, the older coat of arms of the large coastal province of Holland featured a Lion rampant Gules on an escutcheon Or. By contrast, after the Union of Utrecht in 1579, the coat of arms of the United Provinces featured a Lion rampant Or on an escutcheon Gules, bearing a sword in the right hand and clutching a bunch of arrows in the left. The seven arrows symbolised the federal unity of the seven provinces constituting the republic. Although the colour schemes were reversed in the two coats of arms, both lions were often referred to as the *roode leeuw* 'red lion', although, in the republican coat of arms, it was actually the escutcheon rather than the lion that was red. The name of the vessel bearing the first tea to Europe, *Roode Leeuw met Pijlen* 'red lion with arrows', therefore denoted the *Gene-*

pany, from the Discovery of the Passage Round the Cape of Good Hope to the Present Period; with an Account of the Company's Establishments, Revenues, Debts, Assets &c. at Home and Abroad (two volumes). London: Black, Parry & Co. (esp. 'Rise, Progress and Present State of the Tea Trade', Vol. II, pp. 528); ter Molen (1979: 19).

41 ⟨http://www.vocsite.nl/schepen/detail.html?id=10593⟩, consulted December 2015.

FIGURE 5.20 The *Theatrum Anatomicum* set up by Professor Pieter Paauw at the University of Leiden, with a skeleton holding a flagstaff with banner famously presiding over the dissections and autopsies performed there, University of Leiden, Universiteitsbibliotheek

raliteitsleeuw 'lion of the federal union' in the coat of arms of the United Provinces.

These first samples of Japanese tea borne to the Low Countries were submitted to the scrutiny of *De Heeren XVII*, 'the Lords Seventeen' who ran the company from their headquarters located where the Kloveniersburgwal meets the Oude Hoogstraat in Amsterdam.[42] Joint-stock companies based on the pooling of finances of several participating merchants had been practised in Antwerp in the 16th century, modelled after northern Italian examples, but the Dutch East India Company was the first large-scale joint-stock company for long-distance trade set up under the protection of a government.

Despite all the wonderful pioneering studies and reporting on tea by the intrepid Portuguese, decisions regarding the marketability of tea in the West would be left to the discretion of the board of directors of the Dutch East India Company, meeting in the upper chamber of their corporate headquarters on the side of an Amsterdam canal. From 1611 the Dutch had secured an imperial grant to trade in Japan, but specimens of Chinese leaf tea would also soon follow the first samples of leaf and powdered tea from Japan.

At the University of Leiden, professor Pieter Paauw had set up the anatomical theatre in 1597. Dissections and autopsies were performed in his *Theatrum Anatomicum*. A human skeleton holding a flagstaff with banner famously presided over the theatre. Anatomical specimens and oddities were also on display. In the year 1620, the collection of rarities also came to include a specimen of tea. The inventory of the collection, handwritten by professor Otto Heurnius, listed an item labelled *Teae, is ghesonden uyt Japan* 'Tea, which has been sent from Japan' alongside another specimen labelled *Teae fruticis in China provenientis folia nos delata ex Javae insulae civitate Bantham anno 1618* 'Tea leaves originating from China sent to us from the town of Bantam on the island of Java in the year 1618'.[43]

A few years later, a separate inventory listing display items acquired between 1622 and 1628 mentions:

> een groote kan, ofte pot, boven toeghesloten met aerde, daer in Thee is, ghesonden uyt Japan, daer staet buyten op een inscriptie met letteren diemen aldaer ghebruyckt[44]

> a large jug or jar, sealed on top with earth, therein tea sent from Japan, bearing on the outside an inscription in the letters which are used there

The trade in tea began as a trickle, and tea featured as just one exotic commodity in the array of goods traded by the Dutch East India Company. In the ensuing decades, the trade would balloon and soon come to embody a major segment of world trade and global capital flow. The globalisation of tea began when this new commodity was introduced to Holland by the Dutch East India Company and began to arouse the curiosity of the well-to-do. Members of the court of the *stadthouder* in The Hague took to drinking tea. Yet poets, writers, musicians and artists were to exert an even greater influence in popularising tea in Holland than the courtesans in The Hague.

Between the 1615 and 1645, the cultural circle *Muiderkring* regularly gathered for literary and musical evenings at the *Muiderslot* just outside of Amsterdam. This castle was the residence of the famous historian, poet and playwright Pieter Corneliszoon Hooft, who was the *drost* or seneschal of Muiden. Culturally engaged friends of Hooft began periodically visiting the castle from 1615, and the

42 L.J.M. Feber. 1931. *De groote Indische cultures*. Nijmegen: Zeepfabrieken 'Het Anker' (p. 12); J.A.B. Plomp. 1993. *De theeonderneming: Schets van werk en leven van een theeplanter, voor en na de oorlog*. Breda: Warung Bambu (p. 9).

43 Jacobus Heinsius, red. 1934. *Woordenboek der Nederlandsche Taal, zestiende deel STRI-TIEND*. 's-Gravenhage: Martinus Nijhoff, en Leiden: A.W. Sijthoff's Uitgeversmaatschappij N.V., blz. 1761–1771.

44 ter Molen (1979: 39).

FIGURE 5.21
The castle *Muiderslot* of historian, poet and playwright Pieter Corneliszoon Hooft, where tea was drunk by the well-to-do members of the literary circle *Muiderkring*

gatherings assumed a regular character from the early 1630s through 1645.[45]

Other members of the literary circle included Constantijn Huygens, Joost van den Vondel, Gerbrand Adriaenszoon Bredero, Hugo Grotius alias Hugo de Groot, Gerardus Vossius, Casparus Barlaeus alias Caspar van Baerle, Dirk Janszoon Sweelinck and Maria Tesselschade Roemers Visscher, great literary figures whose names are well known to all good Dutch schoolchildren and to students of Dutch literature. These lively events were not fueled just by wine. Famously, in a letter written on the 9th of August 1640 to his bosom friend Caspar van Baerle, Constantijn Huygens, who in fact was himself quite averse to wine and other potations,[46] addressed his fellow circle members collectively as *illustres Te-potores* 'illustrious tea drinkers'.

> Quanto distamus intervallo, mi Barlaee, quanto nec me audis, nec a me audiris? Instar hoc Amphitruoniae noctis est, quam certatim edor-

45 In the 19th century, during attempts to define a new sense of national identity in the social context of the post-Napoleonic monarchy that was established in the northern Netherlands, the *Muiderkring* was romanticised by Dutch writers and creatively reimagined by painters such as Jan Adam Kruseman and Louis Moritz (Mieke B. Smits-Veldt. 1998. 'De Muiderkring in beeld. Een vaderlands gezelschap in negentiende-eeuwse schilderijen', *Literatuur*, 15: 278–289). In 1986, caught up in the Franco-American fad of post-modernism, Strengholt attempted to deconstruct the 'myth' of the *Muiderkring* (Leendert Strengholt. 1986. 'Over de Muiderkring', blz. 265–277 in Jos Andriessen, August Albert Keersmaekers en Piet Lenders, red., *Cultuurgeschiedenis in de Nederlanden van de Renaissance naar de Romantiek: Liber amicorum*. Leuven: Uitgeverij Acco). In the 1980s, 'post-modernism' characteristically involved deconstructing received knowledge, but in practice often had precious little to do with genuine myth busting. Instead, 'deconstruction' quite often involved the defiant fabrication of new myths. For those to whom it was not already obvious, this smug trend in the social sciences was unmasked by Sokal and Bricmont in the 1990s (Alan David Sokal. 1996. 'Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity', *Social Text*, 46/47: 217–252; Alan David Sokal et Jean Bricmont. 1997. *Impostures intellectuels*. Paris: Éditions Odile Jacob). Indeed, much more challenging and arduously time-consuming is the long-suffering labour of garnering and verifying factual tidbits of information from disparate sources that can be accessed only with considerable effort and then weaving the facts into a tight tapestry like a fine Kashmiri silk carpet, so that the narrative spontaneously unfolds by virtue of the fascinating nature of the facts themselves.

46 Jacob Adolf Worp. 1911. 'Het leven van Constantijn Huygens', blz. XXVII-LV in *De Briefwisseling van Constantijn Huygens* (*Eerste Deel 1608–1634*). 's-Gravenhage: Martinus Nijhoff; Frans Richard Edwin Blom. 2003. *Constantijn Huygens: Mijn leven verteld aan mijn kinderen in twee boeken, ingeleid, bezorgd, vertaald en van commentaar voorzien* (two volumes). Amsterdam: Uitgeverij Prometheus/Bert Bakker.

FIGURE 5.22 On the 9th of August 1640, Constantijn Huygens (1596–1687) addressed his fellow members in the literary circle of the *Muiderkring* as *illustres Te-potores* 'illustrious drinkers of tea', here depicted together with his valet in 1627 by Thomas de Keyser, 92.4 × 69.3 cm, oil on panel, National Gallery, London.

mivimus. Tu quam facile expergefias, nescio; ego ecce vigilo et hanc a veterno ἀνάστασιν viribus divini Te, quas una saepe experti sumus, acceptam fero. Amavi hactenus nobile folium et dilexi: nunc et veneror et omni majore cultu, quo hac sublunaria licet, prosequor, nempe quod modice, sumptum Te te mihi repraesentaverit, et hos qualescumque scazontes dictaverit, quibus de Te ac te quid sentiam, pro modulo exprimendi animus et facultas data fuit. Vale atque illustres Te-potores Hoofdium, Vossium, Carpenterium, Spexium, Te veniente die, Te decedente bibentes, inter Te et Te a me saluta. Scribo Rhenobercae IX Aug.ti CIↃIↃCXL[47]

We have not seen each other for such a long time, my Barlaeus, how long has it been that I have neither heard from you, nor you from me? This is just like the night of Amphitryon which we have arduously slept away. I do not know how easy it will be for you to wake up. I am awake here now, and this resurrection from drowsiness I attribute to the powers of the divine Tea, which we have often experienced together. Until now, I have loved the noble leaf and I have cherished it: Yet now I worship it and with an even greater veneration, as much as is considered seemly here in this earthly life, so that in order to get tea presented to me by thee, I draft, as it were, with due modesty, iambic trimeters such as these, containing a spondee or trochee in the last foot, composed by me to express what I think of tea and of thee, to that small extent that intellect and facility of expression have been bestowed upon me. Greetings also to the illustrious tea drinkers Hooft, Vossius, Carpenterius, Spex, drinking Tea as the day breaks and drinking Tea as the sun sets, between tea and thee greetings from me. I write at Rhijnberk on the 9th of August 1640.[48]

Huygens' letter contains playful allusions to the *Georgics* by Virgil, and like his poem to Barlaeus, entitled *De mirabili herba* Te *ad mirabilem Barlœum* 'to the miraculous Barlaeus on the miraculous herb *Tea*', written four days earlier, which he sent along with this letter, Huygens plays on the pun rendered possible by the homophony of the Hokkien word *tê* 茶 [te ˦˥] 'tea' with the accusative and ablative forms of the Latin second person singular pronoun *te* 'you'. Whilst many allusions and literary subtleties are lost in translation, the original text is provided below for the connoisseur, and the pun and at least a portion of the play on words can be appreciated by imagining the interchangeability of the noun *tea* and the pronoun *thee* when reading the English rendering.

A Gange noſtro non diù petitum Te
Te ſobrium, Te providum, diſertum Te
Suaue Te, ſubtile Te, eruditum Te,
Te glorioſum, nobiliſſimum Te, Te,
Tecum, τι θεῖον, eſca cœlitum Te,
Jentaculum, promulſis et caput cænæ,
Fertur potenti, quodque per leves fruſtra
Pæti vapores, quodque per graves fruſtra
Bacchi liquores quæritur, ſacros œſtro
Afflare vates, arduumque potis Tê
Nil repperiri, prona cuncta diti Te
Proferre venâ, bis valere potum Tê
Quod ſobrius valebat; ut ſtupeat cum Tê
Seſe eſſe factum quisque quod ſine Tê non eſt
Genio nec arte. Si fidem meretur Te
Præco penès te, ſi quod eſſe produnt Te
Te teſte Te ſit; Teſte te, et bonis Te ac te
Amantibus, me teſte, me diligenti Te
Ac te, diſertè de Te dixit ac de te,
Barlæe, qui te dixit eſſe totum Te.[49]

47 Jacob Adolf Worp, red. 1914. *Briefwisseling Constantijn Huygens. Deel 3: 1640–1644.* 's Gravenhage: Martinus Nijhoff (blz. 81–82).

48 As the personal secretary of prince Frederik Hendrik, Huygens was often at Rhijnberk during these years, which like the towns of Emmerik, Orsoy, Burik, Wezel and Rees were held militarily by the Dutch republic as fortified frontier posts against Habsburg Spanish aggression. In today's Germany, these toponyms have become *Rheinberg, Emmerich, Orsoy, Büderich, Wesel* and *Rees.*

49 Caspar van Baerle. 1644. *Constantini Hvgenii, Equit. Toparchæ Zulichemii &cc. Principi Auriaco à Confil. &*

Tea acquired not long ago from our Ganges
Sober tea, providential tea, eloquent tea
Pleasant tea, delicate tea, erudite tea
Glorious tea, most noble tea, tea …
With you, something divine, tea, heavenly food
Breakfast, hors d'oeuvre and main dish
It is taken strong, which does not suit the fickle
[It exudes] languid vapours, which does not suit the serious
The liquors of Bacchus are sought, sacred to inspiration
To inspire the soothsayers, an accomplishment of the most able Tea
Nought to be found out, yet all stoop down over their sumptuous Tea
To bring forth talent, the drink Tea is doubly efficacious
A sober man may well be full of vim and vigour, only to be stupefied by Tea.
Then anything can be done that without tea could
be accomplished neither by art nor by ingenuity.
If tea merits trust, then as a herald of tea, if it be that they bring forth any tea
If tea be witnessed by thee, with you as a witness, for the good of tea and thee
For the lovers of tea, with me as a witness, me as an aficionado of
both tea and of thee, and speaking of tea he spoke also of thee
Barlaeus, who told you to be all tea?

Later, Huygens used the same pun on the 4th of January 1665 in a couplet addressed to Coenraad van Beuningen, minister extraordinary of the Dutch republic in Paris:

De Té te moneo, et de me te credere posco
Me te, vel sine Té, plus quam Té diligere et me[50]

I warn you about tea, and I implore you to believe me about tea
by me to thee, or without tea, more than to esteem tea and me

In emulation of the literary aesthetes of the *Muiderkring*, who had begun gathering outside of Amsterdam from 1615, other members of the élite in the Dutch republic likewise took to tea, and the demand for tea in Holland consequently developed at a rapid pace. In response to an order from Amsterdam, a letter from Batavia dated the 5th of December 1629 read:

Jappanschen cha ofte Chineesen thee is niet te becomen; tegens aenstaende jaer verhoopen die te versorgen.[51]

Japanese *cha* or Chinese *thee* is unavailable; by next year we hope to be able to provide it.

Japanese tea was the first tea to come to Europe. In his diary, posthumously published in 1615, the

Secretis. Momenta Desultoria. Poëmatum Libri XI edente Casparo Barlœo. Lugd. Batavor. [i.e. Leiden]: Typis Bonaventuræ & Abrahami Elzevirii (Liber IV, p. 151). A slightly different version of the same poem was transcribed from Huygens' own manuscripts, with the fifth and sixth lines reading 'Cum te, τι θεῖον, esca coelicolûm Te / Et Nectar, et jentaculum, et caput coenae', the form *quodque* in lines 7 and 8 appearing as *quidque*, and with line 18 showing the word *peramanti* in stead of *diligenti*. Moreover, the location and date at the end of the poem were recorded as: In caftris aenden Reurderberg 5. Aug. (Jacob Adolf Worp, red. 1893. *Constantijn Huygens—Gedichten Deel 3: 1636–1644*. Groningen: J.P. Wolters, blz. 136). This particular poem and many of Huygens' other Latin poems and writings have not yet received sensitive translations with explanatory commentary. Noteworthy Dutch translations of some of Huygens' poems from the Latin include: Jan Bloemendaal, red. 1997. *Een handvol Huygens. Vijf Latijnse gedichten van Constantijn Huygens vertaald en toegelicht.* Voorthuizen: Florivallis; Tineke L. ter Meer. 2004. *Constantijn Huygens, Latijnse gedichten 1607–1620* (Monumenta Neerlandica XIV). Den Haag: Constantijn Huygens Instituut.

50 Jacob Adolf Worp, red. 1897. *Constantijn Huygens—Gedichten Deel 7: 1671–1687*. Groningen: J.P. Wolters (blz. 73).
51 ter Molen (1979: 19).

Jesuit Ricci had pointed out the superiority of Japanese tea, the best grades of which could—even in China—fetch ten times the price of the best grade of Chinese tea. Japanese tea had enthralled the first Western tea drinkers in the Low Countries, but the more affordable Chinese tea was not far behind.

In 1634, a shipment of 96 pounds of Chinese tea was sent to Amsterdam to solicit an assessment from the Lords Seventeen.

> soo den Chineesen tee proffijt gevenden treck heeft, men sal quantiteit genoech becomen connen, de bevindinge sullen gaerne verstaen.[52]

> As the Chinese tea has been profitably vended, and adequate supplies would be readily obtainable, your assessment would be greatly appreciated.

The amount of tea reaching Holland at this time was still small. On the 26th of July 1635, Nicolaes Couckebacker, chief trader or *opperhoofd* of the *factorij* at Hirado 平戸, received an order for half a dozen jars of Japanese tea for *'t vaderlandt* 'the fatherland'.

> Een half dosijn potkens Japanschen cha ... Yder potken inhoudende twee ofte drie pont vande gem. cha, alsso der eenigen persoonen beginnen veel wercx of te maecken.[53]

> Half a dozen jars of Japanese *cha* ... Each jar containing two to three pounds of common Japanese tea, since a number of people have begun to trade this commodity intensively.

Throughout this period, business transactions recorded in the *Hollandtsche Mercurius* generally distinguished between *Potten Chia*, i.e. jars of Japanese *cha* 茶, and *catty Thee*, i.e. 'catties of Chinese *tê* 茶 [te ˦]'.[54] The small jars of Japanese powdered green tea were described as having a narrow opening at the top, which suggests that the powdered tea may have been sealed inside Japanese tea caddies or *chaire* 茶入. Demand in Holland for tea grew rapidly at this time, and on the 2nd of January 1637, the Lords Seventeen in Amsterdam sent the following instruction to the *Raad van Indië* or governing council in Batavia:

> Alsoo den Tee bij sommige Int gebruijck begint te comen súllen met alle schepen zoo van Chinese als Japanse eenige potten verwachten.[55]

> Since the use of *Tee* has come into vogue amongst some, all ships shall hence be expected to bring a few jars of both the Chinese and the Japanese sort.

A bill dating from 1643 shows that Chinese vessels had delivered 1,400 pounds of tea and 7,675 tea cups to the Dutch at Taiyouan on Formosa, which was then shipped to Batavia, where tea was consumed avidly by the Dutch colonial community. Tea was traded more profitably, however, when it was being shipped onward to Holland. In 1667, a shipment destined for Batavia, where the market was saturated with supply, was snatched up eagerly after it was sent onward to Amsterdam.[56]

52 ter Molen (1979: 19).

53 ter Molen (1979: 19).

54 For example, *32 Potten Chia* 'thirty-two jars of Japanese tea' and *600 catty Thee* 'six hundred catties of Chinese tea' are listed amongst the diverse items in the cargo inventory of eight ships which left Batavia on the 14th of December 1658 and arrived in the United Provinces in July 1659 (*Thiende Deel van de Hollandtſche Mercurius: Brenghende een kort Verhael van d'alderghedenckwaerdigſte Voorvallen in EUROPA, binnen 't ganſche Iaer onſes Zaligmakers Jeſu Christi, 1659*. Haerlem: Abraham Caſteleyn, blz. 111).

55 Gustaaf Schlegel. 1900. 'First introduction of tea into Holland', *T'oung Pao*, 2ème série, 1: 468–472.

56 ter Molen (1979: 20).

A Dutch Doctor Prescribes Tea and a Portuguese Jesuit Admires Eastern Mores

Jacob de Bondt was born in 1592 in Leiden, where he later studied medicine. In 1627, he sailed with the Dutch East India Company under Jan Pieterszoon Coen to Batavia, where he died in 1631. During his four years in Java, de Bondt conducted research and wrote prodigiously. His work was published posthumously in 1642,[57] and then again in 1658 in an enhanced edition augmented with new findings from the American tropics and annotations by the Amsterdam physician Willem Piso, who had conducted research in Dutch Brazil between 1637 and 1644. Together Jacob de Bondt and Willem Piso are seen as the founders of tropical medicine.

The discourse on tea is rendered in the form of a dialogue between Jacob de Bondt and his colleague Andreas Duræus, a surgeon based in Batavia.

> Bontius. … ut ſimul cum Chinenſium potu *The* vocato, & *Tchia* Japonibus dicta convivium finiremus …
>
> Duræus. memineras de Chinenſium *Thee* vocato Potu, quid tu de eo ſentis?
>
> Bontius. herbula unde hoc *The* conficitur bellidis ſeu conſolidæ minoris folia refert, cum parvis in ambitu inciſuris, hujus foliorum exſiccatorum manipulum in ferventem lebetem ad hoc paratum conjiciunt ac ad ſufficiens tempus ebullire ſinunt, ac hunc liquorem qui ſapore ſubamarus eſt, calidum ſorbent. Hunc porro potum tanquam ſacrum Chinæ obſervant, & hoc venientes, hoc abeuntes, hoſpites excipiunt, & non creduntur jus hoſpitalitatis impleviſſe, niſi tibi hunc potum propinaverint, non ſecus ac Mahometani ſuũ Caveah æſtimant. Exſiccantis eſt qualitas, ac ſomnum prohibet, dum vapores è ventriculo in cerebrum aſcendentes abſumit, præterea aſthmaticis, ac ſuſpirioſis prodeſt.[58]

> Bontius: … so, on that note, we would finish the feast with the Chinese beverage called *The*, which to the Japanese is known as *Tchia* …
>
> Duræus: You recall the beverage that the Chinese call *Thee*. What do you think about it?
>
> Bontius: The herb from which this *The* is made calls to mind comfrey leaves or the leaves of a daisy, with small indentations around the leaf edges, and they add a handful of its dried leaves into a specially designated boiling cauldron, and they finish it by allowing it ample time to boil, and then they sip this liquid hot, which is somewhat bitter to the taste. I observe that in China they regard the beverage as sacred, and that they offer it to guests who are coming or going, and do not believe that the duties of properly extending hospitality have been fulfilled unless they have served you tea, just as the Mohammedans treat their coffee. It has the quality of drying up the humours of the body, preventing sleep, and eradicating vapours which can rise from the stomach into the brain and so alleviates asthma.

Not all of de Bondt's notes and manuscripts had been incorporated into the posthumous 1642 edition of his work. Willem Piso came to be in the possession of de Bondt's work and quotes from his manuscripts in the expanded 1658 edition. In this enhanced edition, the sixth book begins with a section entitled *De Herba, ſeu Frutice, quem Chinenſes* The *dicunt, unde potum ſuum ejuſdem nominis conficiunt* 'About the herb, whose bush the Chinese call *The*, and from which an infusion is brewed by this same name'.

Here Piso quotes from de Bondt's own hitherto unpublished writings.

> De hoc frutice hactenus eloqui erubui, cum Chinenſes id tanquam arcanum ſibi reſervent,

57 Iacobus Bontius. 1642. *De Medicina Indorṽ, Lib. IV*. Lugdunum Batavorum [Leiden]: Franciſcus Hackius.

58 Bontius (1642, Lib. II, Dial. VI, pp. 95, 97). Here the word which occurs as 'aſtruaticis' in the 1642 edition has been given in the corrected form 'Aſthmaticis' which appears in the 1658 edition (Bontius, 1658, Lib. II, Dial. VI, pp. 11–12).

FIGURE 5.23
Frvtex The 'a tea bush' depicted in the posthumously published notes of the Dutch physician Jacob de Bondt (1658, Lib. VI, caput I, p. 88), who died at Batavia in 1631

& ſi quis eos interroget, unde adferatur, & ubi naſcatur, variant omnino, neque quicquam ſtabile adferent, nam modo dicent, herbam eſſe, modo fruticem; ita ut nil firmum inde concludere hactenus valuerim, cum tandem generoſus noſter D. Generalis Iacobus Spex, eam diſputationem, & ſcrupulum mihi partim ademit. Qui haud dubie fruticem eſſe pronunciavit, nam nobiliſſimus Dominus dum ante aliquot annos in Iaponia Legatus, & Gubernator eſſet ibi, ſæpiſſime creſcentem conſpicatus eſt. Viridia folia mihi nunquam hic videre contigit. Sed dum arefacta in aqua tepida diſſolverem, inveni ea omnino ſimilia eſſe foliis Conſolidæ, ſed inciſa ſunt in circumferentia, & dentata. Porro hanc herbulam cum aqua Chinæ decoquunt, & calidum decoctum deinſorbent, ſanitatis conſervandæ gratia, quod decoctum ſapore eſt verſus amarum vergenti, unde & ſaccharum ditiores indunt. Porro de hoc potu tantas laudes celebrant Chinæ, tanquam iſta *The* ſacra eſſet herba, & omnibus languoribus, morbiſque accomodatum ſolatium. Et certe, ut verum, fatear, ſanitati procul dubio conducere dicendum eſt, & pituitæ craſſæ è pectore avellandæ non infima eſt medicina; ſiccitate namque præſtat, & calore, quod amaritudo ejus ſatis indicat, Phthiſicis, quoque hic potus prodeſt, & Orthopnoicis, tum veſicæ, & calculo renum accommodatum eſſe remedium extra controverſiam eſt, cum ſit ſumme diureticum. Cæterum non minoribus à Chinis laudibus effertur hic potus, quam Mahometanorum *Cave*, quod potus genus etiam apud ipſos fervidum ſorbetur in eoſdem, quos diximus uſus. Hactenus Bontius.[59]

I was previously quite reluctant to speak about this plant, since the Chinese keep it so secret unto themselves, and if anyone asks them from where tea is obtained or where it grows, they avoid giving a straight answer, saying sometimes that it is a grass sometimes a bush, so that I was hitherto incapable of inferring anything, until our general Jacob Speckx finally persuaded me to put aside my doubts. He, who had been the most illustrious representative and overseer at our *factorij* in Japan until several years ago, stated that it was unequivocally a bush, for he had quite often observed it growing there himself. I never had the opportunity to observe the fresh green leaves of the plant myself. Yet when the dried leaves are soaked in hot water,

59 Bontius (1658, Lib. VI, caput I, p. 87).

> I found them to be quite similar to comfrey leaves, but they have a dentate edge around the outer perimeter of the leaf. Moreover, they brew this Chinese herb with boiling water and then sip the hot infusion to benefit their health, and when the infusion verges on being too bitter, the well to do may add a modicum of sugar. Moreover, in China they praise this herb so highly and regard tea as a sacred plant good against all manner of ailments, affording comfort against diseases. And indeed, verily I admit that it must be said that it is without a doubt most conducive to good health. It is not an ineffective medicine for eliminating phlegm and catarrh from the chest. It affords dryness and heat, which one can already tell well enough on account of its bitterness. This drink is also good against consumption, asthma and swelling, and is a most effective remedy to combat kidney stones, since it is strongly diuretic. This beverage does not elicit any less praise from the Chinese than does the coffee from the Mohammedans, whose custom it is likewise to drink this type of beverage boiling hot, as we have already recounted. Thus far the words of Jacob de Bondt.

An interesting observation by the Dutch physician is that a well-to-do subset of Chinese tea drinkers, either in China or in the Dutch East Indies, purportedly added a wee bit of sugar to their tea whenever the infusion had become too bitter.

In 1642, the same year as the publication of de Bondt's posthumous observations on tea, tea was also mentioned by Álvaro Semedo. Unlike the Dutch physician in Batavia, the Portuguese Jesuit managed to return to Europe in 1636 after a sojourn in China of 26 years, but Semedo does not tell us much about tea itself. Rather his observations in the context of the serving of tea to guests pertain to the fact that Asian hospitality was markedly different from the Occidental habit of often receiving guests *a secco*. Semedo also noted that elderly people were treated with greater deference in the Orient than in the West. Semedo's original Portuguese manuscript was lost, and his text was published instead in Castillian and Italian translations in 1642 and 1643 respectively. The English translation below was printed in London in 1655.

> … precedono conforme l'età; e ſe non la ſanno, ne dimandano. Il Padron di Caſa piglia ſempre per ſe l'vltimo luogo. Doppo d'eſſerſi poſti in ſedia, viene ſubito la beuanda detta *Cià*, la quale anco ſi prende con l'iſteſſo ordine di precedenza.
>
> In alcune Prouincie, il replicarſi ſpeſſo tal beuanda, ſi ſtima maggior honoranza: in quella però di Hamcheu, ſe ritorna la terza volta, è vn dire all'hoſpite, che ſi sbrighi. Se l'hoſpite è amico, e ſi trattiene, ſubito mettono tauola con coſe dolci, ò frutta: nè mai ſi fa viſita a ſecco, il che e il coſtume di quaſi tutta l'Aſia, al contrario dell'vſo d'Europa.[60]
>
> [The guests] take place according to their age, and if they do not know one anothers age, they ask it. The Maſter of the house taketh always the loweſt place. After they are ſeated, preſently the drink called *Cià* is brought in, which they alſo take according to the ſame order of precedency.
>
> In ſome Provinces, the often preſenting of this drink is eſteemed the greater honour: But in the Province of *Hamcheu* [i.e. Hangchow 杭州 or *Hángzhōu* in Chekiang 浙江 or *Zhèjiāng* province], if it be brought the third time, it intimateth to the viſitant, that it is time for

60 Álvaro Semedo. 1643. *Relatione della Grande Monarchia dell Cina del P. Alvaro Semedo Portvghese de la Compagnia di Giesv̀.* Roma: Hermann Scheus (p. 80). The Spanish translation, which appeared one year earlier, is as follows: 'Tanto eſtiman a los mas antiguos. El ſeñor de la caſa ſiempre toma el ultimo pueſto. Acomodados ya, el chà viene luego, i vàn beviendo por orden; quantas màs vezes (en algunas Provincias) mejor agaſajo, i mejor reſpeto; pero en la de Hamcheu, ſi viene la tercera vez, es como dezir a los viſitantes, que ſe vayan: i a lo menos ſi ſe holgaron de bever mas, iràn contentos de la deſcorteſia. Si ſon amigos, i ſe detienen, poneſe meſa, i en ella dulces, o frutas; i de qualquier modo jamàs la viſita es ſeca: coſtumbre de caſi toda la Aſia, contrario al de toda Europa' (Álvaro Semedo. 1642. *Imperio de la China. I Cvltvra Evangelica en èl, por los Religios de la Compañia de* IESVS. Madrid: Iuan Sanchez, p. 92).

> him to take leave. If the viſitant be a friend, and maketh any ſtay, preſently there is a table ſet with ſweet-meats and fruits: nor do they ever make drie viſits, which is the cuſtome almoſt of all *Aſia*, contrary to the uſe of *Europe*.[61]

A More Famous Dutch Physician Prescribes Tea and Tea at the Siamese Court

The posthumously published medical manual by Jacob de Bondt did not attract as much attention as the work of the celebrated Dutch physician Nicolaes Tulp, whose work received great acclaim throughout Europe. The appraisal by this authoritative voice from within the medical establishment of the day gave an unexpected boost to the tea trade of the Dutch East India Company. Tulp's fame had already been established in 1641 by his hefty medical manual describing numerous conditions and ailments ranging from breast cancer and spina bifida to diabetes and palpitations of the heart.[62] His manual also contained the first ever description of an *Orang—outang* 'orangutan' or *Homo ſylveſtris* 'man of the jungle' based on a dissection.[63]

Tulp first described the deleterious effects on the lungs of smoking tobacco. The Spanish had first introduced tobacco and tobacco seeds from the Americas, but the Dutch popularised both pipe and tobacco in Europe commercially. Tulp also first described the placebo effect, and his *Observationum Medicarum Libri Tres* was so authoritative and popular that an expanded second edition was published in 1652, entitled *Observationes Medicæ*. This expanded handbook was the forerunner and model for subsequent medical manuals, from the *Codex Medicus* to the *Merck Manual*,[64] and so ultimately furnished the original model for today's internet-based diagnostic reference tools.

Tulp wrote in Latin under the name Nicolaus Tulpius, but his name at birth in 1593 was Claes Pieterszoon. In 1622, upon being appointed an alderman or *schepen* in Amsterdam, he changed his name to Nicolaes Tulp and adopted the tulip as his insignia. Dr. Tulp is immortalised in Rembrandt's painting *De Anatomische Les* 'The Anatomy Lesson'. The expanded 1652 edition of Tulp's medical manual concludes with Chapter LIX, dedicated exclusively to tea and entitled *Herba Theé*. The chapter begins as follows:

> Indiæ orientali nihil familiarius eſt, potione decoctâ ex herbâ quàm Chinenſes Theé, ac Iaponii T'chia vocant. cujus notiam ab illis, qui cum ſummo imperio illic præfuêre, mihi communicatum, equidem lubens poſteritati tradam. ſunt itaque huic herbæ ut folia oblonga, acuminata, & in ambitu crenata; ſic radices fribroſæ, ac in minimas particulas diſperſæ. creſcitque tantùm non in Chinâ, ac Iaponiâ, verùm etiam in Chiam. at eo diſcrimine, quod Chinenſis folia ſint ex nigro viridia, Iaponenſis verò colore dilutiore, ac ſapore gratiore. unde quoque fit, quod Iaponenſium T'chia longè pluris etiam æſtimetur, quàm Chinenſium Thée; veniatque non rara una ipſius libra, centum argenti libris.[65]

There is nothing more usual in the East Indies than the beverage steeped from the herb which

61 Álvaro Semedo. 1655. *The History of That Great and Renowned Monarchy of China*. London: E. Tyler for Iohn Crook (p. 62).

62 Nicolaus Tulpius. 1641. *Observationum Medicarum Libri Tres*. Amstelredami: Ludovicus Elzevirius.

63 The Malay name *orang utan*, literally 'man of the jungle', is properly pronounced [ɔraŋ utan]. English lexical sources sometimes prescribe the pronuncation [əˈræŋuːtæn] or [əˈræŋətæn] for the name *orangutan* in English, but the pronunciations [əˈræŋətæŋ] and [əˈræŋuːtæŋ] are, in fact, more often heard. The bastardisation of the Malay pronunciation no doubt dates back to the colonial period, as preserved in the spelling 'Orang—outang' first recorded in print by Tulpius (1641, Lib. III, p. 275, Tab. XIIII). More educated Dutch speakers today follow the Malay pronunciation and commensurately write *orangoetan* in Dutch orthography, but the spelling *orangoetang* along with the pronunciation ending in a velar nasal also likewise still exist in Dutch.

64 Tulpius (1652).

65 Tulpius (1652: 400).

FIGURE 5.24 *De anatomische les van Dr. Nicolaes Tulp* ‘The anatomy lesson of Dr. Nicolaes Tulp’, the most famous ever tea doctor, as depicted in 1632 by Rembrandt Harmenszoon van Rijn in a painting commissioned by the *Chirurgijnsgilde* or surgeons’ guild of Amsterdam, oil on canvas, 169.5 × 216.5 cm, Mauritshuis te ’s Gravenhage

the Chinese call *Thée* and the Japanese call *T’chia*, about which I freely transmit to posterity that which was told to me by the supreme authorities there, such as that this plant has long pointed leaves with dentate edges and minutely fibrous roots, and that it grows not just in China and Japan, but also in Siam, albeit with the distinction that the leaves of the Chinese are blackish green, whilst the Japanese leaves are light or pale green and have a more agreeable fragrance, whence the Japanese *T’chia* is much more highly valued than the *Thée* of the Chinese, such that a single pound of the same often sells for as much as a hundred pounds of silver.

Tulp reported that tea was grown not just in Japan and China, but that tea was also cultivated in the kingdom of Siam. This 1652 statement about tea cultivation in Siam would be repeated by Piso in 1658 and again by Valentyn in 1726. In fact, Tulp’s gleanings appear to have conflated two strands of information. At the time, tea was grown in the Lanna ล้านนา [lá:nna:] kingdom in what today is northeastern Thailand and Shan State in Burma, and reports about tea cultivation as well as the commodity *mî:ang* เมี่ยง may have been heard at the Siamese capital Àyútth– Àyúttháya: อยุธยา, where the Dutch had established a presence.

In May 1604, admiral Wybrandt van Waerwijck sailed through the East Indies from the island of *Crimita* ‘Karimata’ to *Succadana* ‘Sukadana’

in Borneo and then proceeded to Johor after reaching the islands of *Linga* 'Lingga' and *Bintam* 'Bintan'. After thence sailing to the sultanate of *Patane* 'Pàtta:ni:', van Waerwijck wrote a letter to the Siamese king Nárɛsuǎ:n นเรศวร, which was delivered from Pàtta:ni: by Cornelis Speckx and the admiral's nephew Jan Volkertszoon in June 1604.[66] In Pàtta:ni: ปัตตานี, van Waerwijck succeeded in securing the alliance of the sultanate with the Dutch East India Company against the Portuguese and he offered passage to several literate Chinese whose services he could use as interpreters on his voyage to China. A favourable answer from the king of Siam was received from Cornelis Speckx in September 1604. Unfortunately, king Nárɛsuǎ:n fell ill during an expedition against the Burmese and died in April 1605. He was succeeded by his brother king Ɛka:thótsàrót เอกาทศรถ (*regnabat* 1605–1620). Cornelis Speckx was recalled in 1606 and returned to the sultanate of Pàtta:ni: bearing gifts from the Siamese monarch for prince Maurits van Oranje Nassau.

In late 1606, the head of the Dutch East India Company trading post at Pàtta:ni: ปัตตานี, Victor Sprinckel, sent two Dutch envoys, Jacques van der Perre and Willem Pietersen Tonneman, to Àyúttháya: อยุธยา. These two clumsy emissaries each requested to be given a golden betel nut case, not knowing that such receptacles were reserved for the highest ranking Siamese mandarins, and their superior Sprinckel was compelled to send a letter of apology. Nonetheless, the prowess of the Dutch in fighting the Portuguese and Spanish inspired king Ɛka:thótsàrót to allow the Dutch East India Company to establish a *comptoir* and godown at Àyúttháya: in February 1608, headed by Lambert Jacobszoon Heijn.[67]

Reports about *mî:ang* เมี่ยง and about the smokey Shan tea *ná:mla:* น้ำหล้า that was drunk in the middle Mekong drainage may conceivably have been gleaned by Dutchmen at Àyúttháya: อยุธยา. However, the tea drunk at Àyúttháya: as well as by the coolies and merchants at the downstream settlement of Bangkok บางกอก [ba:ŋkɔ̀:k] was Chinese tea which had come by sea, just like the Thai word for tea itself. The Thai word *cha:* ชา 'tea', pronounced in the mid level tone, is a loan word from the Cantonese *caa⁴* 茶 [tsʰa: ˩] 'tea'.

Simon de la Loubère, French ambassador to the court of Siam, where he stayed from October 1687 to January 1688, reported that the normal beverage in Siam was water, particularly flavoured water.

> L'eau pure eſt leur boiſſon ordinaire: ils aiment ſeulement à la boire parfumée, au lieu qu'à nôtre goût l'eau qui ne ſent rien, eſt la meilleure.[68]

> Pure Water is their ordinary Drink; they love only to drink it perfum'd, whereas to our Palate Water which has no ſmell, is the beſt.[69]

Although the drink of the common man in Siam was water or flavoured water, tea was imbibed in the capital at Àyúttháya: อยุธยา, where its use was confined to the Siamese court. The lengthy description provided by the French ambassador paints a vivid picture of how tea was prepared and consumed and remains a valuable account of courtly tea culture at Àyúttháya: at this time.

> Pour le plaiſir ou l'amuſement les Siamois prennent du Thé, j'entends les Siamois de la Ville de Siam; car l'uſage du Thé eſt inconnu dans tous les autres Lieux du Royaume. Mais à Siam la mode eſt entierement établie, & c'eſt chez eux une civilité neceſſaire de donner du thé à ceux qui leur rendent viſite. Ils l'appellent *Tcha* comme les Chinois …
>
> Les Siamois content trois ſortes de Thé, le *Tcha-boüi* ou *Théboüi*, qui eſt un peu rougeâtre, qui engraiſſe, dit-on, & qui reſſerre (on le regarde à Siam comme un reméde au cours de ventre) le

66 The text of the letter of admiral Wybrandt van Waerwijck to the king of Siam is recorded in Commelin (1646, Vol. 1, final instalment. pp. 73–74).
67 van der Cruysse (2002: 44).

68 de La Loubère (1691, Vol. 1, pp. 60–61).
69 de La Loubère (1693, Vol. 1, pp. 21).

thé *ſomloo*, qui au contraire purge doucement, & la troiſiéme eſpéce de thé, qui n'a point de nom particulier que je ſache, & qui ne lâche, ny ne reſſerre.

… Il préparent le thé en cette maniére. Ils ont des pots de cuivre rouge étamez en dedans, où ils font boüillir de l'eau; & elle y bout en un inſtant, parce que le cuivre en eſt fort mince. Ce cuivre vient du Jappon, ſi ma mémoire ne me trompe; et il eſt ſi aiſé à mettre en œuvre, que je doute que nous en ayons de ſi doux en Europe. On appelle ces pots des *boulis*: & d'autre part ils ont des boulis de terre rouge, qui eſt ſans goût, quoi que ſans vernis.[70] Ils rinſent d'abord le bouly de terre avec l'eau boüillante pour l'échauffer: puis ils y mettent une pincée de thé, & enfin ils le rempliſſent d'eau boüillante; & aprés l'avoir couvert ils arroſent encore d'eau boüillante par le dehors: ils ne ferment pas le biberon comme nous faiſons. Quand le thé eſt aſſez infuſé, c'eſt à dire quand les feüilles ſont précipitées, ils en verſent l'eau dans les taſſes de porcelaine; qu'ils ne rempliſſent d'abord qu'à demy; afin que ſi elle paroît trop chargée ou trop teinte, ils la puiſſent tempérer, en y verſant de l'eau pure, qu'ils conſervent toûjours boüillante dans le bouly de cuivre. Cependant s'ils veulent encore prendre du thé, ils rempliſſent derechef de cette eau boüillante le bouly de terre, & ils peuvent le faire ainſi pluſieurs fois ſans y remettre du thé, à ce qu'ils voyent que l'eau ne prend plus aſſez de teinture. Ils ne mettent point de ſucre dans les taſſes; parce qu'ils n'en point de purifié qui ne ſoit candi, & que le candi ne fond que trop lentement. Ils en prennent donc un grain dans leur bouche, auquel ils donnent quelque coup de dent à meſure qu'ils prennent leur Thé. Quand ils ne veulent plus de thé, ils rendent la taſſe renverſée ſur la ſoûcoupe; parce que c'eſt la plus grande incivilité du monde ſelon eux de refuſer quoy que ce ſoit, & qui s'ils rendent la taſſe debout, on ne manque pas de leur ſervir derechef du thé, qu'ils ſont obligez de recevoir. Mais ils ſe gardent de remplir la taſſe, s'ils ne veulent témoigner à celuy à qui ils la ſervent toute pleine, que c'eſt, comme on dit, pour une bonne fois, & qu'on n'entend pas qu'il revienne jamais au logis.

Les connoiſſeurs diſent que l'eau ne ſauroit eſtre trop pure pour le thé, que celle de citerne y eſt la plus propre comme la plus pure, & que le meilleur thé du monde devient mauvais dans l'eau, qui n'eſt pas excellente.[71]

For pleaſure and converſation the *Siameſes* do take *Tea*, I mean the *Siameſes* of the City of *Siam*. For the uſe of *Tea* is unknown in all the other places of the Kingdom. But at *Siam* the Cuſtom is throughly ſetled, and 'tis amongſt them a neceſſary Civility to preſent *Tea* to all that viſit them. They call it *Tcha*, as do the Chineſes …

The *Siameſes* do reckon three sorts of Tea, the *Tchaboui* or *Boui Tea*, which is reddiſh, which ſome ſay fattens and is aſtringent; 'tis look'd upon at *Siam* as a Remedy for the Flux. The *Somloo* Tea, which on the contrary purges gently. And the third ſort of Tea, which has no particular Name, that I know, and which neither looſens nor binds.

They prepare the *Tea* in this manner. They have Copper Pots tinn'd on the inſide, wherein they boil the Water; and it boils in an inſtant, by reaſon the Copper thereof is very thin. This Copper comes from *Japan*, if my Memory fails me not; and 'tis ſo eaſie to work, that I queſtion whether we have any ſo pliant in Europe. Theſe Pots are called *Boulis*; and on the other hand they have *Boulis* of red Earth, which is without

70 In the Parisian edition of 1691, the phrase 'qui eſt ſans goût, quoi que ſans vernis' is replaced by the phrase 'qu'on appelle *buccaro* en Portugal', which demonstrates that the English translation of 1693 was based on the 1691 Amsterdam edition rather than on the Parisian edition of the same year (cf. Simon de La Loubère. 1691. *Du Royaume de Siam par Monſieur de La Loubere, Envoyé extraordinaire du Roy aprés du Roy de Siam en 1687 & 1688* (deux tomes). Paris: La Veuve de Jean Baptiste Coignard, pp. 76–79).

71 de La Loubère (1691, Vol. 1, pp. 62–64).

> tafte, tho without Varnifh. They firft rince the Earthen Bouli with boiling water to heat it, then they put in as much *Tea*, as one can take up with the Finger and Thumb, and afterward fill it with boiling water; and after having covered it, they ftill pour boiling water on the outfide, they ftop not the Spout as we do. When the Tea is fufficiently infused, that is to fay when the Leaves are precipitated, they pour the Liquor into *China* difhes; which at firft they fill only half, to the end that if it appear too ftrong or too deep, they may temper it, by pouring in pure water, which they ftill keep boiling in the Copper *Bouly*. Neverthelefs if they will ftill drink, they do again fill the Earthen *Bouly* with this boiling water, and fo they may do feveral times without adding any more *Tea*, until they fee that the water receives no tincture. They put no Sugar into the Difhes, by reafon they have none refin'd which is not candy, and the candy melts too flowly. They do therefore take a little in their mouth, which they champ as they drink their *Tea*. When they would have no more Tea, they turn the Cup down on the Saucer; becaufe that 'tis the greateft incivility among them to refufe any thing, and that if they leave the Cup ftanding, they fail not to ferve them again with *Tea*, which they are oblig'd to receive. But they forbear to fill the Difh, unlefs they would teftifie to him unto whom they prefent it full, that 'tis, as fome fay, for once, and that it is not expected that he ever come again to the Houfe.
>
> The moft experienced do fay that the Water cannot be too clear for Tea, that Ciftern-water is the beft as being the most pure, and that the fineft Tea in the world becomes bad in water, which is not excellent.[72]

The French ambassador reported that, whilst the French and English at Àyúttháya: were fond of their spirits, the Muslims and the Portuguese indulged in less deleterious beverages.

> Enfin les Mores de Siam prennent du Caffé qui leur vient de l'Arabie, & les Portugais y prennent du Chocolat, quand il leur en vient de Manile Capitale des Philippines, où on en porte des Indes Occidentales Efpagnoles.[73]
>
> In a word, the Moors of *Siam* drink *Coffee*, which comes to them from *Arabia*, and the *Portuguefe* do drink *Chocolate*, when it comes to them from *Manille*, the chief of the *Phillipines* [sic], where it is brought from the *Spanifh West-Indies*.[74]

Engelbert Kæmpfer, the German naturalist and physician in the employ of the Dutch East India Company at Desima from 1690 to 1692, also visited Àyúttháya: อยุธยา shortly after de la Loubère had left Siam. The ship that brought Kæmpfer from Europe out to Batavia, the capital of the Dutch East Indies, had on the way first put in at Siam. During this time, Kæmpfer spent three weeks at Àyúttháya:. Based on this sojourn, Kæmpfer was able to include a detailed record of the bloody succession which in 1688 had landed king 'Petraatia' on the Siamese throne. Phêtra:cha: เพทราชา, who ruled until 1703, is remembered for his viciousness, and Kæmpfer's account of the accession to the throne is contained in his book *Amœnitatum Exoticarum*.

The Àyúttháya: kingdom, which had flourished since 1350, subsequently fell to the Burmese in 1767. King Tà:ksǐn ตากสิน established his new capital at Thonbùri: ธนบุรี on the west bank of the Câo Phráya: เจ้าพระยา. After Tà:ksǐn's death in 1782, king Phrá Phútthá Yɔ̂:tfá: Cùla:lô:k พระพุทธยอดฟ้าจุฬาโลก (*regnabat* 1782–1809) became the first monarch of the currently reigning Càkkri: จักรี dynasty and moved the capital across the river to Ráttànáko:sǐn รัตนโกสินทร์ on the east bank and gave the Siamese capital the new ceremonial name Krungthê:p Mahǎ:nákhɔ:n กรุงเทพมหานคร 'city of angels', by which Bangkok is known today in Thai,

72 de La Loubère (1693, Vol. 1, pp. 21–22).

73 de La Loubère (1691, Vol. 1, p. 67).

74 de La Loubère (1693, Vol. 1, p. 23).

whereby the second portion of the name is the Sanskrit loan *mahānagar* महानगर 'metropolis'.[75]

Yet in other languages the city is still known chiefly by its older name of Bangkok บางกอก [baːŋkɔ̀ːk], whereby *baːng* บาง denotes a settlement on a river bank, and *kɔ̀ːk* กอก denotes the Thai 'olive' or water hog plum *Elaeocarpus hygrophilus*.[76] This tree once grew abundantly along this part of the river. The move from Thonbùriː to Bangkok displaced the Chinese, who until then had been settled at the site of today's royal palace and temple complex. Consequently the Chinese moved to today's Chinatown at Yauwáràːt เยาวราช. Both in the old Bangkok and later in Yauwáràːt, the Chinese girls of ill repute who worked in the *roːng náːmchaː* โรงน้ำชา 'tea pavilions' were referred to as *naːng náːmchaː* นางน้ำชา 'tea girls'.[77] The prevalence of tea as a beverage at Àyúttháyaː and Bangkok must have prompted Tulp's report. Yet there is no record that tea was imported to the West from Siam at this time.

The 1691 map of Simon de la Loubère, the French ambassador to the court of Siam, shows 'Bancok' on the west bank of the river, and he reported that *le territoire de Bancok* was covered with gardens *pendant l'efpace de quatre lieuës* 'for the fpace of four Leagues' and supplied *une tres grande quantité de fruit* 'a great quantity of fruit' to Àyúttháyaː อยุธยา.[78] The map in the 1693 English translation of the French ambassador's book, however, appears to indicate 'Bancok' on the east side of the river, and on a map of the course of the Câo Phráyaː it appears to be Ráttànákoːsǐn, or the southern portion thereof, that is labelled as the island of '*Bankoc*'.[79]

On two Dutch maps of the course of the Siamese river dating from ca. 1690 and today kept in the National Archives in The Hague, one map shows *Bancock* at a fortification at the site of Thonbùriː ธนบุรี, but also shows settlements along the river on the opposite bank in Ráttànákoːsǐn รัตนโกสินทร์, whereas the other map, appearing perhaps to be of slightly later date, shows the fortification of *T oude Casteel Bankock* 'the old castle of Bangkok' at the site of Thonbùriː ธนบุรี, whereas *T Nieuwe Casteel* 'the new castle' is depicted as a walled town covering the better part of Ráttànákoːsǐn.[80] The French and Dutch sources indicate that the original Bangkok บางกอก [baːŋkɔ̀ːk] was on the west bank. These Western observations are supported by the fact that Wát Àrun วัดอรุณ 'temple of the dawn'[81] was originally named Wát Mákɔ̀ːk วัดมะกอก 'temple of the Siamese water hog plum tree'.[82]

In 1691, Simon de la Loubère likewise situated Bangkok on the Câo Phráyaː เจ้าพระยา seven leagues upstream from the sea: 'C'eft fur cette riviere & à sept lieuës de la Mer, qu'eft fituée la ville

75 Daniel George Edward Hall. 1955. *A History of Southeast Asia*. London: Macmillan Limited; David Kent Wyatt. 1982. *Thailand: A Short History*. New Haven: Yale University Press.

76 There are evidently a number of species bearing usable fruits and going by the name *mákɔ̀ːk* มะกอก, i.e. *mákɔ̀ːk klûːan* มะกอกเกลื้อน *Canarium subulatum*, the fruits of which are often consumed as an expectorant, *mákɔ̀ːk náːm* มะกอกน้ำ *Elaeocarpus hygrophilus*, the edible fruits of which are sold pickled in markets and convenience stores, and *mákɔ̀ːk phraːn* มะกอกพราน *Turpinia pomifera* (Boonchoo Sritularak, Nopporn Boonplod, Vimolmas Lipipun and Kittisak Likhitwitayawuid. 2013. 'Chemical constituents of Canarium subulatum and their anti-herpetic and DPPH free radical scavenging properties', *Records of Natural Products*, 7 (2): 129–132; T. Smitinand. 2014. *Thai Plant Names* [revised edition, R. Pooma and S. Suddee, eds.]. Bangkok: Bangkok Forest Herbarium and Department of National Parks, Wildlife and Plant Conservation).

77 Personal communication of Vithi Phanichphant วิถี พานิชพันธ์, professor emeritus of the Department of Thai Art, Faculty of Fine Arts, Chiːang Mài University, 30 August 2015.

78 de La Loubère (1691, Vol. 1, p. 8 and map facing p. 8).

79 de La Loubère (1693, Vol. 1, map facing p. 3, p. 4, map facing p. 5).

80 Barend Jan Terwiel. 2008. *A Traveler in Siam in the Year 1655: Extracts from the Journal of Gijsbert Heeck*. Chiːang Mài: Silkworm Books (fold-out maps between pp. 26 and 27, and between pp. 74 and 75).

81 [< Sanskrit अरुण *Aruṇ* 'dawn, the red colour of sunrise, the charioteer of the sun'].

82 Sujit Wongthes สุจิตต์ วงษ์เทศ. 2012. *Bangkok: A Historical Background* กรุงเทพฯ มาจากไหน? Bangkok: Dream Catcher (p. 37).

de Bancok'.[83] The same was reported half a century earlier by the Dutch traveller Gijsbert Heeck, who mentioned in his journal:

> Bencocq sijnde een vande vermaerdtste vlecken deser rieviere, 7 mijlen boven 't plaats Amst[erdam] gelegen[84]

> Bangkok one of the more celebrated spots along this river, seven Dutch miles upstream of the Amsterdam warehouse [on the sea coast]

From the entry in Heeck's journal for the 7th of September 1655, it appears that already by this time Bangkok effectively straddled both banks of the Câo Phráya: เจ้าพระยา.

> 's Morgens heel vroeg, sijnde schoon aengenaem weijr, quamen wij int vlecq Bencocq, wesende vrij groot int begrip, staende aen beijde zijden vol huisen doch altemael slecht genoegh van gebouw op hooge staecken, sijnde de stijlen, balcken, wanden ende watter meer aen behoort enkel bamboesen, dat is dick Indiaensch riedt, gedekt met calappas bladen, ofte adap, hebbende veele alleenelijck maer wanden van stroo matten of cadiangs mede uijt diergelijcke bladen gemaeckt; doch de priesters van haer hadden houten wooningen met pannen gedeckt, maer al mede op staecken, om de weecke, ende moerassige grondt.[85]

> We arrived very early in the morning with very lovely weather at the spot Bangkok, which turns out to be a rather large place, replete with houses standing on both sides, though all rather shoddily built on high stilts, of which the post, beams, walls and other associated parts were made only of bamboo, which is a thick Indian cane, and were covered with coconut leaves or adap, many having walls made only of straw matts or *cadiangs* made out of such leaves, though the priests amongst them lived in wooden houses covered with roof tiles, but also standing on stilts, due to the soft and marshy ground.

Heeck also observed that stingray shagreen was already being traded as a form of fine leather from Bangkok, particularly for export to Japan.

> oock een soorte van roche vellen (in Japan seer begeert) om aen de hechten van haer houwes als andersints te gebruijken[86]

> also a type of shagreen from rays (much sought after in Japan) in order to use on the hilts of swords and for other purposes

This excursus on tea at the Siamese court at Àyúttháya: provides important pieces of the overall historical mosaic. Tea in the Siamese capital at Àyúttháya: and the then still small but already bustling riverside settlement of Bangkok was imbibed by both Siamese courtiers and by Chinese merchants and coolies respectively. The statement made by Tulp in 1652 about tea growing in Siam was an isol-

83 de la Loubère (1691: 7).

84 In the 17th century, fifteen *Duytfche mijlen* or Dutch miles spanned one degree of median arc across the Earth's surface so that a Dutch mile measured 7.4 km. At the time, one degree constituted 17½ *Spaanfche mijlen* so that a Spanish mile measured 6.34 km. Twenty English or French miles, *Engelfche ofte Franfche mijlen*, constituted one degree of median arc so that an English mile on navigational charts of the 17th century measured 5.5 km, which is equivalent to a league at sea or to three modern nautical miles. Ironically, in the post-Napoleonic Netherlands two centuries later, the *Hollandsche mijl* 'Holland mile', innovated in the 19th century, was likewise defined at 5.5 km, and therefore equivalent to the old English sea mile (Gijsbert Heeck. 1655. *Journael ofte Dagelijcxsz Aenteijkeninge wegens de Notabelste Geschiedeniszen voorvegavellen ende gepaszeert op de Derde Voyagie van Gysbert Heeck naer Oost Indijen*, reproduced as transcribed from the original manuscript by Renée Hoogenraad in Barend Jan Terwiel. 2008. *A Traveler in Siam in the Year 1655: Extracts from the Journal of Gijsbert Heeck*. Chi:ang Mài: Silkworm Books, p. 85).

85 Heeck (1655: 91).

86 Heeck (1655: 100).

ated report, although it was repeated by Piso in 1658 and by Valentyn in 1726. The tea consumed by select groups along the lower course of the Câo Phráya: appears to have been Chinese tea, but tea definitely grew in the hills surrounding the upper reaches of the Câo Phráya: เจ้าพระยา.

In the Lanna kingdom, which then covered large swathes of what today is northern and northwestern Thailand and northwestern Burma, tea was and still continues to be cultivated for the production of *mî:ang* เมี่ยง. Various language communities of these northerns regions, extending as far west as northeastern India, also produced tea in bamboo internodes for drinking, such as the smokey *ná:mla:* น้ำหล้า tea drunk by the Shan. These two tea cultures, the ancient and original Zomian tea culture and the newer sinified tea culture brought from overseas, met and touched each other at this great cultural crossroads in the kingdom of Siam.

Tulp also corroborated earlier reports that Japanese tea was finer than Chinese tea, and that green tea was more highly valued than the partly oxidised varieties. Tulp praised the virtues of tea for three more eloquent pages, thereby crowning his famous and influential medical manual with a panegyric on tea. Some have speculated that Tulp may have had a vested interest or received a payment for his eulogy on tea from the directors of the Dutch East India Company, which was the sole supplier of tea to Europe. Tulp drew not only on reports which reached Holland through the Dutch East India Company, he listed earlier authors whose work on tea he had studied, such as Giovanni Pietro Maffei, Luís d'Almeida, Luís Fróis, Pierre du Jarric, Matteo Ricci, Jan Huygen van Linschoten and Jacob de Bondt.[87]

Tulp vividly described the difference between the ways that tea was prepared in Japan and China, as observed by Dutchmen in the East.

> Differuntque etiam haud parum inter ſe diſcrepantes hæ nationes circa utendi rationem. miſcentibus Iaponiis pulverum hujus plantæ, in lapide ophitide contritum aquæ calidæ, Chinenſibus verò ipſam plantam cum paucis ſalis, ſaccharive gravis, ex liquore aliquo decoquentibus. quod decoctum deinde calefactum officioſiſſimè propinant cum convivis invitatis, tum quibuſcunque honoris cauſſâ ipſos ſalutatem venientibus. idque ea animorum inclinatione, ut Principes etiam viri, non detrectent, quin potius honori ducant, ſuis manibus hanc herbam vel amicis decoquere, vel alioquin ei miſcendæ, temperandæve operam ſuam impendere. exſtructis propterea in palatiorum ſuorum interioribus, conclavibus, ac foculis ex pretioſiſſimis lapidibus, ligniſve, iſti operi ſpeciatim dicatis. in quibus etiam curioſè aſſervantur ollae, tripodes, infundibula, calices, cochlearia, aliaque perpolita hujus culinæ inſtrumenta, quæ aliquot aureorum millibus redempta, ac ſericis integumentis involuta intimis ſolummodò amicis oſtendunt, neque minori habent loco, quàm apud nos adamantes, gemmas, ac baccata ſummi pretii monilia.[88]

The nations differ significantly in the way in which they prepare their tea, for the Japanese prepare their tea in powder form, grinding it on a stone mill, and then mixing it well with hot water, whereas the Chinese steep an infusion of the same plant, adding a little bit of salt or plenty of sugar, and then serve this beverage hot in a most courteous manner to their dinner guests or to whoever comes to pay them a visit, which they do with such assiduity of spirit that even men of high standing do not disdain to serve this herb to their guests, but rather take great pride in preparing the beverage for their friends with their own hands, assisting them in mixing and preparing the brew in the proper fashion within their palaces and in their salons, with little stoves made of the most precious stones and exquisite wood, and specifically dedicated to the preparation of tea, and

87 Tulpius (1652: 403).

88 Tulpius (1652: 402–403).

> most wondrously keeping there as well the vessels, tripods, tea caddies, funnels, cups, spoons, and other finely worked instruments specifically for the preparation of tea, acquired at the price of thousands of guilders, keeping them carefully wrapped in layers of silk, to be displayed only to their close friends, nor do these tea preparation implements have any less place than do diamonds, gems or the most costly pearl necklaces amongst us.

Tulp reported that some Chinese added a liberal amount of sugar to their tea. The two sources which record this practice are de Bondt and Tulp, which suggests that the taking of tea with sugar was practised at least by some of the Hokkien tea drinkers settled in towns on Java, but also perhaps by Chinese tea drinkers elsewhere.

Tulp extolled the healing qualities of tea in the strongest possible terms, and the prominent place of his discourse at the end of his influential medical manual ensured that the fame of tea spread far and wide, far beyond the Low Countries. The Polish word for tea, *herbata*, is taken directly from *Herba Theé*, the title of the last chapter of Tulp's medical manual.

> Quippe creditur hîc paffim, nihil hac herbâ falubrius, cum ad vitam, in extremam fenectutem, prorogandam; tum as impedienda quæcunque fanitatis incomoda, neque ipfam folùm corpora reddere vegeta, atque arcere calculi dolores, quibus hîc neminem dicunt obnoxium, verum etiam tollere dolorem capitis, gravedinem, lippitudinem, deftillationem, fpiritus difficultatem, ventriculi imbecillitatem, inteftinorum tormina, laffitudinem, ac fomnum quem tam evidenter compefcit; ut forbitionem hujus decocti afiumentes, videas interdum integras noctes lucubrando confumere, ac fine ullâ molestiâ evincere, inexpugnabilem cæteroquin dormiendi neceffitatem. calefacit enime modicè, & adftringendo ventriculi ofculum, refrænat, coërcetque ufque eò vaporum ad fomnum conciliandum neceffariorum adfcenfum: ut nihil impedimenti offeratur illis, qui fcribendo aut meditando fatagunt noctes tranfigere.[89]

> The consensus of opinion in China is that there is nothing more salubrious than this herb in order to prolong life into extreme old age and to combat anything that might hamper good health, nor does tea merely render the body more robust, but it also alleviates the pain of calculi, from whom nobody suffers in the area where tea comes from, and moreover alleviates headaches, colds, inflammations of the eyes or chest, shortness of breath, stomach ache, intestinal upset, lassitude, and sleepiness, which it quite resolutely suppresses, so that one may observe some people who drink this beverage to stay awake whole nights without sleeping, and without suffering any inconvenience from the otherwise inexorable need to sleep, as it warms moderately and draws shut the lower oesophageal sphincter, and restrains and subdues the vapours required to induce sleep, and so removes any impediment to those who would spend their nights writing or meditating.

Tulp remained active in municipal politics as an alderman of the city council. In 1654, two years after retiring from professional practice as a physician, Tulp was elected burgomaster of Amsterdam, in which capacity he served for four terms. Later, in 1679, Bontekoe, although himself a vocal proponent of tea, would inveigh against the tendency to elevate tea to a panacea against all ills, but, as Tulp had presciently quipped, *Omnibus placere difficile!* 'It's difficult to please everybody!' With this motto Tulp concluded both his chapter on *Herba Theé* and his famous medical manual.

A Third Dutch Doctor Extols the Virtues of Tea

In 1658, the Amsterdam physician Willem Piso, who extolled Tulp as *noftræ Reipublicæ Medicæ*

89 Tulpius (1652: 401–402).

Coryphœus 'the medical celebrity of our republic', closely followed Tulp in his own work. Piso repeats the noteworthy observation that tea was grown not just in China and Japan, but also in Siam. This tiding that *Le Thé vient du Royaume de Siam* 'tea comes from the kingdom of Siam' would be echoed in 1692 in the instructions on how to prepare tea in a French manual about how to maintain an orderly household.[90] Piso distinguished the Japanese and Fukienese names for tea and asserted that green tea from Japan and the darker tea from Fukien derived from one and the same species of plant.

> ... non mirum eſt, multos etiam nunc in illo errore verſari, quaſi diverſæ ſpeciei plantæ eſſent *The* & *Tſia*: cum è contra eadem ſit, cujus decoctum Chinenſibus *The*, Iaponenſibus *Tſia* nomen audiat; licet horum *Tſia* ob majorem foliorum contritionem & coctionem, nigrum *The* appelletur. Vnde ſit, ut Iaponienſium *Tſia* gratioris utique ſit ſaporis, majoriſque efficaciæ, ac altioris quoquo pretii.[91]
>
> It is little wonder that many entertain the mistaken view that *The* and *Tsia* are different species of plant, whereas in fact the infusion which is known to the Chinese as *The* listens to the name of *Tsia* amongst the Japanese, whereas the *Tsia* of the latter would be called *The* if it were steeped from the chopped leaves and the infusion were to be black. So, the *Tsia* of the Japanese has a finer flavour and a greater effect and at any rate sells at a higher price.

From the time of the first Dutch entry into Japan and Fukien, Dutch cognoscenti were quite aware of the two distinct terms for tea, the Japanese *cha* and the Hokkien word *thee*, and they knew that green tea and darker tea originated from one and the same plant. The misconception that there were two distinct species of tea, one yielding green tea, the other black, appears to stem from François Valentyn, whose later compilational work contained both new and old information, some of the latter in a rather garbled form. Valentyn managed to mislead even Linnæus.

Piso made the same observation that Matteo Ricci made in Peking and that Tulp had repeated in Amsterdam regarding the relative value and quality of Japanese tea, which was both finer and dearer than Chinese tea. Yet he also evidently drew on the unpublished portions of the writings of Jacob de Bondt.[92] Piso reported that tea bushes are the size of European rose bushes both in size and in girth. He enumerated various grades of tea, deriving from various parts of the bush and differing in the care and skill with which the tea was manufactured. He gave examples of prices per pound in guilders and cents for various tea grades, illustrating the great range in prices paid for tea depending on its quality. The Japanese powdered green tea represented the finest kind of tea, whilst the Chinese infusions covered a range of tea grades.

Piso compared the white flowers of the tea plant to those of the *egelantier* or sweet briar (*Rosa rubiginosa*) except in their smell. He mentioned the round black seeds of tea, the fibrous roots and the gross anatomy of the plant. Piso voiced the hope that tea could be cultivated one day in Holland which, like Japan, also has snowy winters, if only the seeds could be safely transported and germinated. Piso recommended leaden capsules which could be well sealed to keep tea leaves. At the time the alloy known in Dutch as *theelood* 'tea lead' was an amalgam of lead, tin and copper or, in some cases, just tin and zinc. Piso asserted that tea purified the breath and expelled bad vapours. He recorded that, according to Jacob de Bondt, the sobering quality of tea is the very opposite of the soporific effect of opium and that this fact was generally appreciated in Japan and China.

90 Audiger. 1692. *La Maison reglée, et l'art de diriger la maison*. Paris: chez Nicolas le Gras (p. 262).

91 Bontius (1658, Lib. VI, p. 87).

92 Piso (1658, Lib. VI, caput I, p. 89).

A Milanese Jesuit in Cochin China

Cristoforo Borri was born in Milan in 1583 and became a Jesuit in 1601. In 1616, Borri sailed from Macau to Cochin China and lived at Hội An from 1618 to 1622. After returning to Europe, he taught mathematics at Coimbra, where he died in 1632. The year before his death, his account of Cochin China was published in Rome, and a year after his death the English translation was published in London. Echoing what Fróis had reported several decades earlier about Japan and what Ricci had written with regard to the technique of eating in China several decades earlier, Borri described how the Vietnamese in Cochin China too ate their food with chopsticks.

> non vsano eſſi ne coltelli, ne forcine, di quelli non ne hanno biſogno, venendo il tutto in tauola trinciato minutamente dalla Cucina, à queſte ſuppliſcono con due legnetti politi poſti trà le dita, con li quali gentilmente, e con preſtezza marauiglioſa pigliano qualſiſia coſa, che però ne anche hanno biſogno di touaglioli non imbrattandoſi eſſi mai le mani, mentre con eſſe non toccano coſa alcuna.[93]

> They haue neither kniues nor forkes at the Table, not needing any. They haue no need of kniues, becauſe their morſells are before cut out in the Kitchin; and in lieu of forkes they haue little ſtickes finely poliſhed which they put betwixt their fingers in ſuch ſort, that with their dexterity they can take vp any thing therewith. They haue as little need of table Napkins, ſeeing they neuer ſoule their hands, but alwayes take vp their meat with thoſe ſtickes.[94]

Borri furthermore reported that the Vietnamese in Cochin China drank tea, just as they did in China and Japan. Yet even after a sojourn of four years at Hội An, the Milanese Jesuit mistook the tea leaves for the roots of the plant, although he knew well enough to report that in China tea was prepared from an infusion of the leaves and that the Japanese prepared their tea from a powder.

> Trà'l giorno coſtumano bere cert'acqua ben calda, nella quale vi ſi cuoce la radice d'vn'herba, che chiamano Chià, dalla quale denominano la beuanda ſteſſa, ch'è cordiale aſſai, & aiuta non poco per diſtaccar gli humori dallo ſtomaco, & per facilitare la digeſtione; ſimile beuanda vſano li Giapponeſi, e li Cineſi, ſe non che nella Cina in luogo della radice vi cuocono le foglie dell'iſteſſo arbore, e nel Giappone vna certa poluere, fatta di certe foglie, ma gl'effetti ſono li medeſimi, e tutto ſi chiama Chià.[95]

> They vſe alſo to drinke a dayes, of a certaine warme water, in which the root of an hearbe which they call *Chia* hath ſod, of which this drinke taketh the name, being very cordiall, and not a little helpfull to diſperſe the noyſome humours of the ſtomach, and to facilitate the digeſtion. The like is vſed in *Iapan* and *China* alſo; ſauing that in *China*, in lieu of the root, they ſeeth onely the leaues of the tree, and in *Iapan* they take them in powder, but the effects are the ſame; and they all call it *Chia*.[96]

We are left to wonder whether the inaccuracy of Borri's report about tea should be attributed to the poor quality of the tea leaves available to him at Hội An, or whether this Jesuit simply developed no personal interest in this beverage himself dur-

93 Cristoforo Borri. 1631. *Relatione della Nvova Missione delli PP. della Compagnia di Giesv, al Regno della Cocincina, Scritta dal Padre Chriſtoforo Borri Milaneſe della medeſima Compagnia, Che fù vno de primi ch'entrorono in detto Regno*. Roma: per Franceſco Corbelletti (p. 62).

94 Cristoforo Borri. 1633. *Cochin-China containing many admirable Rarities and Singularities of that Countrey. Extracted out of an Italian Relation, lately preſented to the Pope, by Christophoro Barri, that liued certaine yeeres there*. London: publiſhed by Robert Ashley. Printed by Robert Raworth; for Richard Clutterbuck, and are to be ſold at the ſigne of the Ball in Little-Brittaine (9th unnumbered page of Chapter v).

95 Borri (1631: 65).

96 Borri (1633: 11th unnumbered page of Chapter v).

ing his four-year stay. More reliable reports about tea drinking in Annam, as Vietnam was then called, would soon follow from another Jesuit, who had a veritable passion for drinking tea himself.

A French Jesuit Binges on Tea in Tonkin

Alexandre de Rhodes, born in Avignon in 1591, was educated as a Jesuit and then travelled to Indochina in 1619. He spent 30 years in Indochina and China, but lived principally in Tonkin, where he famously compiled the *Dictionarivm Annnamiticvm, Lvsitanvm et Latinvm.*[97] This trilingual dictionary of Vietnamese, Portuguese and Latin, which was published in Rome in 1651, two years after de Rhodes had returned to Europe. His dictionary introduced a phonological system for writing the Vietnamese language, which was made the official orthography of Vietnamese by the French colonial administration in 1910 because the phonological writing system enabled Vietnamese to learn to write their language within several weeks' time. Today this system is called *chữ Quốc ngữ* 'national language script'. Tonkin had been ruled as a Chinese province from 111 BC to 939 AD, and previously Vietnamese had been written using Chinese ideograms and modified ideograms in a system developed in the 8th century, known as *quốc âm* 國音 'country sound' or *chữ nam* 𡨸南 'southern script', and now generally referred to as *chữ Nôm* 𡨸喃 'vernacular script'.

In 1644, after two previous banishments, Alexandre de Rhodes was finally sentenced to death by beheading by the governor of the province of Cham for his persistence in effectuating conversions to Christianity.[98] Through the kind intervention of a befriended scribe, literate in Chinese, who pleaded on his behalf, de Rhodes' sentence was commuted to exile in 1645. In 1646, he travelled to Malacca, where he waited in vain for forty days for a Dutch vessel which might take him to Holland. Then he decided to set sail for Batavia, where he stayed for eight months. For today's air traveller regularly flying between Europe and East Asia, Jakarta is too out of the way to present itself as an obvious hub. Yet the world looked quite different to those who boarded wooden ships to negotiate the journey to and from the Orient centuries ago. For maritime travellers plying the sea lanes of yore, Batavia served very much as a hub.

In Java, the Dutch authorities sentenced de Rhodes to prison for saying mass and practising Catholicism. After three months of incarceration, Cornelis van der Lijn, the governor general of the Dutch East Indies, freed de Rhodes and sent him back to Europe on a Portuguese vessel.[99] He arrived in Europe only in 1649, however, after first availing himself of the opportunity to conduct peregrinations in Macassar, Persia, Armenia and Anatolia. As fate would have it, shipments of tea had begun to arrive in Paris from Holland from the year 1636, as recorded by Nicolas de la Mare.[100] In Paris, the Dutch trade in tea had already begun to find a curious and receptive market thirteen years before de Rhodes returned to his fatherland after his sojourn of three decades in Asia.

Tea became fashionable amongst the aristocracy and also drew the attention of the medical establishment. In early 1648, the aspiring physician named Armand-Jean de Mauvillain (1620–1685) defended a quodlibetarian thesis before a jury presided over by Philibert Morisset at the Parisian *Faculté de médicine*. Inspired by earlier

97 Alexandre de Rhodes. 1651. *Dictionarivm Annnamiticvm, Lvsitanvm et Latinvm*. Rome: Sacra Congregatio (p. 99).

98 Alexandre de Rhodes called him a *Roy* 'king'.

99 Alexandre de Rhodes recorded the name incorrectly as 'Corneille Vandeclin'.

100 Nicolas de la Mare. 1705, 1710, 1719, 1738. *Traité de la Police, où l'on trouvera l'histoire de son établissement, les fonctions et les prérogatives de ses magistrats, toutes les loix et tous les reglemens qui la concernent* (quatre tomes). Paris: Jean & Pierre Cot. The *locus classicus* reads as follows: 'Le thé ſont les feüilles d'un arbriſſeau qui nous viennent de la Chine; l'uſage commença d'en être connu à Paris, environ l'an 1636' (de la Mare 1719, tome III, p. 797, col. 1).

FIGURE 5.25
Alexandre de Rhodes (1591–1660), the French Jesuit who developed a writing system for Vietnamese in Tonkin, where he binged on tea

medical work such as the 1642 treatise of Jacob de Bondt, physician at Batavia, his thesis bore the title *An the Chinensium menti confert?* 'Is the tea of the Chinese good for the mind?'. On the 22nd of March 1648 in a letter to his friend Charles Spons in Lyon, Guy Patin (1601–1672), who two years later would become the dean of the Parisian Faculty of Medicine, fulminated against the doctoral jury president Philibert Morisset for having favoured what he deemed to be a risible thesis by de Mauvillain devoted to something as frivolous as *l'impertinente nouveauté du siècle* 'the irrelevant novelty of the century'.[101] Yet eighteen years later, this very de Mauvillain would be the dean of the Faculty of Medicine as well as the close friend and counsellor of Molière, and tea too would show itself to be more than just a passing fad.

In the section describing China in his 1654 account of his thirty years of travels in Asia, Alexandre de Rhodes devoted an entire chapter to tea, entitled *De l'Vsage du Tay, qui eſt fort ordinaire en la Chine*. The French Jesuit attributed the longevity of the peoples of the Orient to tea, but, after his unpleasant experiences in Batavia, his disgruntle-

101 Christian Warolin. 2005. 'Armand-Jean de Mauvillain (1620–1685), ami et conseiller de Molière, doyen de la Faculté de médicine de Paris (1666–1668)', *Histoire des sciences médicales*, XXXIX (2): 113–129; Armand Brette, réd. 1901. *Correspondance de Gui Patin*. Paris: Librairie Armand Colin (p. 1).

ment is palpable in the way that he begrudges the Dutch their tea trade.

> L'Vne des chofes qui contribuënt à mon aduis le plus à la fanté de ces peuples, qui arriuent bien fouuent à la derniere vieilleffe, eft le Tay dont l'vsage eft fort commun en tout l'Orient, & que l'on commence de connoiftre en France, par le moyen des Holandois, qui l'apportent de la Chine, & le vendent à Paris trente francs la liure; qu'ils ont acheté en ce païs-là huict ou dix fols, & encore voy-je qu'ordinairement il eft fort vieil, & gafté: c'eft ainfi que nos braues François, laiffent enrichir les Eftrangers dans le negoce des Indes orientales, d'où ils pourroient tirer toutes les plus belles richeffes du monde, s'ils auoient le courage de l'entre-prendre auffi bien que leurs voifins, qui ont moins de moyens d'y reüffir qu'eux …
>
> Quand cette feüille eft cueillie, on la fait bien fecher au four, puis on la ferme dans des vafes d'eftain qui foient bien bouchez parce que fi elle eft perduë, & n'a aucune force comme le vin qui eft éuanté. Ie vous laiffe à penfer fi Meffieurs les Holandois ont bien foin de cela quãd ils la vendent en France: pour connoiftre fi le Tay eft bon, il faut voir s'il eft bien vert, amer, & fec en forte qu'il fe brife auec les doits; s'il a tout cela il eft bon, autrement affeurez-vous qu'il ne vaut pas beaucoup.

> One of the things that in my opinion contributes the most to the health of the peoples of the Far East, who often live to a ripe old age, is tea. Its consumption is widespread throughout the Orient, and we are just beginning to grow familiar with it in France through the intervention of the Dutch, who bring it from China and sell it in Paris at the price of thirty francs a pound, whilst they buy it in that country for just eight to ten sou. Moreover, I often see that the tea which they sell is quite old and spoilt. It is in this way that our well-mannered Frenchmen fill the purses of foreigners in the trade with the East Indies, whence they would be able to extract the finest riches of the world if only Frenchmen had the initiative to undertake this as ably as their neighbours, who are actually less well-equipped to succeed than the French are …
>
> When this leaf is harvested, it is well dried in an oven, then put inside well sealed pewter vases because, if the tea goes off, it has no potency, just like wine that is past its best. I shall let you judge for yourselves whether the Dutchmen take proper care of these matters when they sell their wares in France. To know whether the tea is good, it should be nice and green, bitter and dry so that it can be broken with the fingers. If the tea is like that, then it's good. Otherwise rest assured that it is not worth much.

Tea did not travel optimally when transported in the wooden Dutch East Indiamen of yore across two oceans for many months, and the most expensive tea was not what Dutch traders purchased in bulk as cargo to Europe, though the Dutch East India Company did import tea of various grades and types. There is no doubt that Alexandre de Rhodes had occasion to drink fine tea in Tonkin, where tea had been drunk from Chinese style tea bowls at least from the 10th century.[102] Yet from his descriptions, it appears that de Rhodes was familiar principally with semi-fermented tea with a russet infusion, the leaves of which were used for more than one infusion.

> Le Tay eft vne feüille, grande comme celle de nos grenadiers, elle vient en des arbriffeaux femblables au Myrthe, il n'y a dans tout le monde que deux Prouinces de la Chine, où elle fe trouue, la premiere eft celle de Nanquin, où vient le meilleur Tay, qu'ils appellent Châ, l'autre eft la Prouince de Chin Cheau. La recolte de cette feüille, fe fait en ces deux Prouinces, auec le mefme foin, que nous faifons nos vendanges, l'abondance en eft fi grande qu'elles en ont affez pour fournir le refte de la Chine, le Iapon, le Tunquin, la Cochinchine & plufieurs autres Roy-

102 Nishimura et al. (2008: 198–199).

FIGURE 5.26 The *Oost-Indiëvaarder* or East Indiaman featured a wider hull and bore more tonnage than a regular Dutch *koopvaardijschip* or merchant ship. East Indiamen were armed with cannons in a configuration similar to that of a Dutch man-o'-war, as seen here in the 1622 painting *Gezicht op Hoorn* 'view of Hoorn', oil on canvas, 105 × 202 cm, Hendrick Cornelisz. Vroom, Westfries Museum

aumes, où l'vſage du Tay eſt ſi ordinaire que ceux qui n'en prennent que trois fois le iour, ſont les plus moderez: pluſieurs en prennent dix ou douze fois, ou pour mieux dire à toutes heures …

Voicy la façon de laquelle ſe ſeruent les Chinois pour prendre le Tay, ils ſont boüillir de l'eau dans vn vaſe bien net, quand elle boult bien, ils la tirent du feu, & y mettent cette feüille, ſelon la proportion de l'eau; c'eſt à dire le poids d'vn eſcu de Tay, ſur vn bon verre d'eau, ils couurent bien le vaſe, & quand la feüille va au fonds de l'eau, c'eſt pour lors qu'il eſt temps de la boire, parce que c'eſt lors que le Tay luy a communiqué ſa vertu, & l'a renduë rougeaſtre: ils la boiuent la plus chaude qu'ils peuuent, ſi elle eſt rafroidie elle ne ſera pas vtile. La meſme feüille qui eſt demeurée au fonds du vaſe, peut ſeruir vne ſeconde fois, mais alors on la laiſſe boüillir auec l'eau.

Tea is a leaf the same size as our pomegranate trees, which comes from small trees resembling myrtle. It is found nowhere in the world other than in two Chinese provinces, the first being the province of Nanking [*Nánjīng* 南京], where the best tea comes from and where tea is called chà, and the other being the province of Chinchew [*Quánzhōu* 泉州 in Fukien 福建]. The harvest of this leaf in these two provinces is carried out with the same care with which we conduct the harvest of our vineyards, and the harvest is copious enough to supply all the rest of China as well as Japan, Tonkin, Cochin China and many other realms, where the consumption of tea is so normal that those who only take it three times a day are the most moderate, whilst many others take it ten or twelve times a day or, one might as well say, at all hours …

This is how the Chinese take their tea. They boil the water in a very nice vessel. When the water is boiling well, they take it from the fire and add the right amount of tea, which should be in a proportion of the weight of one écu of tea for one good glass of water. They cover the vase well, and when the leaves precipitate to the

> bottom of the water, this is the right moment to drink the tea because then the tea will have yielded up its virtues to the water and turned it reddish. They drink the tea as hot as they can take it. If it gets cold, it is no longer beneficial. The leaves which remain at the bottom of the vase can be used a second time, but then they are allowed to boil with the water.

Although Alexandre de Rhodes spent eight months in Batavia, he did not adopt the Dutch orthography *thee* for Hokkien *tê* 茶 [te ˧˥] 'tea', but improvised his own French spelling *Tay*. The orthography *Tay* apparently represented an attempt to render the Hokkien pronunciation of Chinchew 泉州 (Mandarin: *Quánzhōu*), where Rhodes reported that tea came from, and where the Dutch had been trading since 1604. In addition to the Hokkien pronunciation of tea, in the passage quoted above, de Rhodes also recorded the northern pronunciation for tea used at Nanking as *Chà*.

Although Rhodes spent most of his three Asian decades in the kingdom of Tonkin, which covered the northern portion of what today is Vietnam, his *Tay* is not one of the two Vietnamese words for tea. In his Vietnamese dictionary, Alexandre de Rhodes glossed Vietnamese *chè* in Portuguese as *cha de beber* 'drinking tea' and in Latin as *herba apud ſinas cuius iuſculum paſſim ſumitur* 'herb amongst the Chinese the infusion of which is taken regularly'.[103] The form *chè* is the usual Vietnamese word for tea, and *cây chè*, for example, means 'tea plant'. The word *chè* is an old loan word transmitted orally from Pínghuà Chinese or Cantonese some time before the Middle Chinese period. This layer of Sinitic loan words is called *âm Hán cổ* 'Old Sino-Vietnamese'. There is also a more literary Vietnamese word for tea which is *trà*. The Vietnamese form *trà* 'tea', which does not occur in Rhodes' *Dictionarivm*, is a Middle Chinese loanword transmitted through the literature. This layer of Sinitic borrowing is called *âm Hán-Việt* 'Sino-Vietnamese'.

What Rhodes knew about Japanese tea was based on hearsay. He never visited Japan and was unaware that tea was also cultivated there, thinking that it only grew in southeastern China, whence it was supplied to Japan. Nonetheless he accurately reported the existence of powdered tea in Japan and provided corroboration of the reports by de Bondt and Tulp to the effect that some Chinese tea drinkers would on occasion use a bit of sugar when their infusion of tea was overly bitter.

> Les Iaponnois prennent autrement le Tay, car ils le mettent en pouſſiere, puis le jettent dans l'eau boüillante, auec laquelle ils auallent tout: ie ne ſçay pas ſi cette maniere de le prendre eſt plus ſalutaire que la premiere, ie me ſuis touſiours ſeruy, & bien trouué de celle qui eſt commune parmy les Chinois. Les vns, & les autres meſlent vn peu de ſuccre auec le Tay pour en corriger l'amertume, qui pourtant ne me ſemble pas deſagreable.

> The Japanese take their tea differently, since they make a powder out of it, then throw this powder into the boiling water, and then they swallow all of it mixed together. I don't know whether this way of taking tea is more salubrious than the first. I have always just prepared tea the Chinese way. Some people add a little sugar to their tea to correct its bitterness, but this bitterness does not strike me as unpleasant.

The celebrated French Jesuit's account of the salutary properties of drinking tea reveals that Alexandre de Rhodes was not just a heavy tea drinker, but that he often used tea to stay awake all night and even once abused tea in a binge in order to stay awake for six consecutive days.

> Les vertus du Tay ſont trois principales. La premiere eſt de guerir, & d'empeſcher les douleurs de teſte, pour moy quand j'auois la migraine, en prenant du Tay, ie me ſentois ſi fort ſoulagé, qu'il me ſembloit qu'on me tiroit auec

103 de Rhodes (1651: 99).

la main, tout mon mal de tefte. Parce que la principale force du Tay eft d'abatre les vapeurs groffieres qui montent à la tefte, & nous incommodent, fi on le prend apres le fouper ordinairement il empefche le fommeil: il y en a pourtant quelques-vns que le Tay fait dormir, parce que n'abattant que les vapeurs les plus craffes il laiffe celles qui font propres au fommeil, pour moy i'ay experimenté affez fouuent que quand j'eftois obligé à oüyr toute la nuict les Confeffions de mes bons Chreftiens, ce qui arriuoit fouuent, ie n'auois qu'à prendre du Tay à l'heure que j'euffe commencé à dormir, ie demeurois toute la nuict fans eftre preffé du fommeil, & le lendemain j'eftois auffi fraiz que fi j'euffe dormy à mon ordinaire; ie pouuois faire cela vne fois la femaine, fans eftre incommodé. Ie voulus vne fois le continuer pendant fix nuits confecutiues, mais à la fixiéme ie demeuray entierement efpuifé.

Le Tay ne fert pas feulement à la tefte, il a vne merueilleufe force, à foulager l'eftomach, & à aider la digeftion, auffi d'ordinaire plufieurs en prennent apres le difné, après le foupé on n'en prend pas ordinairement fi on veut dormir. La troifiéme chofe que fait le Tay eft de purger les reins contre la goutte, & la grauelle, et c'eft peut-eftre la vraye caufe pourquoy ces fortes de maladies, ne fe trouuent point en ces pays-là, comme i'ay dit cy-deuant.

The effects of tea are threefold. The first is to heal and drive out headache. Whenever I had a migraine, I felt greatly relieved whenever I would take tea, as if someone had drawn out my entire headache with their hands. Because the main power of tea is to drive out the gross vapours which rise to the head and cause discomfort, tea usually drives out sleepiness if taken after supper. There are those whom tea makes sleepy because, in eliminating only the most coarse vapours, it may leave just those vapours which are proper to sleep. As for me, I experienced often enough that, when I had to hear the confessions of my good Christian converts all night long, which happened quite often, then all I had to do was to take tea at the time that I would otherwise have gone to sleep, and then I could stay up all night without feeling drowsy, and the following day I would be just as fresh as if I had just slept as usual. I could do this once a week without suffering discomfort. I once tried to do this for six nights in a row, but by the sixth night I was totally wasted.

Tea is not just good for the head, it also has the marvellous effect of relieving the stomach and aiding digestion, so that many are in the habit of taking some after dinner, though one usually does not take it after supper if one wishes to sleep. The third thing which tea does is to cleanse the kidneys of gout and kidney stones, and this may be the real reason that such maladies do not occur in those countries, as I have mentioned already.

Alexandre de Rhodes concluded his chapter on tea by justifying its length in terms of the French national interest which was served by informing his readership about tea so that important high ranking personages in the kingdom could drink tea to safeguard their health in the interest of the fatherland.

Ie me fuis vn peu eftendu fur le difcours du Tay, parce que depuis que ie fuis en France, j'ay eu l'honneur de voir quelques perfonnes de grande condition, & d'vn excellent merite, de qui la vie & la fanté font extremément neceffaires à la France, qui s'en feruent auec profit, & ont eu la bonté de vouloir que ie leur diffe ce que mon experience de trente ans m'auoit appris de ce grand remede.[104]

I have gone on at great length about tea because, since my return to France, I have had the honour

104 Alexandre de Rhodes. 1654. *Divers Voyages et Miffions du pere Alexandre de Rhodes en la Chine, & autres Royaumes de l'Orient, avec fon retour en Europe par la Perfe & l'Armenie. Le tout diuifé en trois Parties*. Paris: chez Sebaftien Cremoify et Gabriel Cramoify (pp. 62–67).

> of meeting several personages of great station and social standing, whose life and good health are indispensable to France, and who benefit from the use of tea, and who had the goodness to wish that I should recount what my thirty years of experience have taught me about this great remedy.

His treatise had come out at the height of the tea rage in France. Three years later, in 1657, the physician Denis Jonquet would praise tea as an *herbe divine dans laquelle se retrouvent tous les sucs de l'ambroisie* 'a divine herb containing all the juices of ambrosia'.[105] That same year, Pierre Grassé defended a dissertation in Paris entitled *Anarthritidi the sinensium* about the use of tea to relieve pain in the joints. In keeping with the spirit of the times, his doctoral defence was a mondaine event, at which Grassé even had his portrait done by Robert Nanteuil.[106]

In Rome, de Rhodes pleaded to be sent back to Vietnam, but he was sent instead to Persia, where he died in 1660 at Isfahan. Nearly half a century after the account of Alexandre de Rhodes, by which time tea had even reached England, where tea drinking had begun to gain popularity, the well-travelled William Dampier reported that the tea served in Vietnam was actually of rather inferior quality when compared to the tea drunk in China or Japan. The relevant passage about Vietnam reads as follows:

> There is a great ſtore of Sugar made in this Country; and Tea in abundance is brought from thence; being much uſed there, and in *Tunquin* and *Cochin-china* as common drinking; Women ſitting in the Streets and ſelling Diſhes of Tea hot and ready made: they call it *Chau*, and even the pooreſt People ſip it. But the Tea at *Tonqueen* or *Cochinchina* ſeems not ſo good, or of ſo pleaſant a bitter, or of ſo fine a colour, or ſuch virtue as this in *China*; for I have drank of it in theſe Countries; unleſs the fault be in the way of making it. for I made none there my ſelf: and by the high red colour it looks as if they made a Decoction of it, or kept it ſtale. Yet at *Japan* I was told there is a great deal of pure Tea, very good.[107]

It is noteworthy that Dampier's account also appears to echo the many earlier reports that the best tea came from Japan.

An Italian Jesuit from Hángzhōu and a French Priest from Siam

Just one year after the work of Alexandre de Rhodes was published, a discussion of tea by another Jesuit appeared in print. However, this Jesuit had had more favourable experiences with Dutchmen in the Orient. He even chose to publish his work in Amsterdam. Martino Martini was born in Trento in 1614, studied in Rome under Athanasius Kircher from 1634 to 1637, then studied theology from 1637 and 1639 in Lisbon, where he was ordained. In 1640, he sailed from Lisbon to Macau, where he arrived in 1642. From 1643 to 1651, he lived in Hángzhōu and also travelled within China. He left Asia on a Dutch vessel in 1651 and returned to

105 J.-G. Houssaye. 1843. *Monographie du thé: Description botanique, torréfaction, composition chimique, propriétés hygiéniques de cette feuille*. Paris: chez l'auteur (p. 8); Martine Acerra. 2008. 'Le modes du thé dans la société française aux XVIIe et XVIIIe siècles', pp. 55–62 in Raibaud and Souty (op.cit., p. 57).

106 Sabine Yi, Jacques Jumeau-Lafond et Michel Walsh. 1983. *Le Livre de l'amateur de thé*. Paris: Robert Laffont (pp. 65–66).

107 William Dampier. 1697. *A New Voyage round the World. Deſcribing particularly, the Iſthmus of America, ſeveral Coaſts and Iſlands in the Weſt Indies, the Iſles of Cape Verd, the Paſſage by Terra del Fuego, the South Sea Coaſts of Chili, Peru and Mexico, the Iſle of Guam one of the Ladrones, Mindanao, and other Philippine and Eaſt-India Iſlands near Cambodia, China, Formoſa, Luconia, Celebes, &c., New Holland, Sumatra, Nicobar Iſles, the Cape of Good Hope, and Santa Hellena: Their Soil, Rivers, Harbours, Plants, Fruits, Animals, and Inhabitants. Their Cuſtoms, Religion, Government, Trade, &c.* London: Printed for James Knapton, at the Crown in St. Pauls Church-yard (p. 409).

FIGURE 5.27
Martino Martini (1614–1661), who learnt all about tea at 杭州 Hángzhōu, as depicted during his sojourn in the Netherlands in 1654 by Michaelina Woutiers, a female portrait painter of the Spanish Netherlands

Rome via Bergen in Norway and then proceeded to Amsterdam, where he submitted manuscripts for publication in 1653, and Leiden, where he visited the university.[108] After several years in Rome, he returned to Hángzhōu in 1658 and died of cholera there in 1661.

The Chinese atlas of Martino Martini was published by Joan Blaeu in 1655 under the title *Novus Atlas Sinensis a Martino Martinio S.I. descriptvs* in the sixth part of Blaeu's *Theatrvm Orbis Terrarvm ſive Novus Atlas*. Martini's report on tea is included in the section about the 14th city in his list of major Chinese cities, which happened to be 'Hoeichev', i.e. Hángzhōu 杭州.

Cha folium quale.

Folium Cha nominatiſſimum nuſquam alibi, quam hic præſtantius eſt. id in gratiam curioſi lectoris, ac botanices ſtudioſi brevibus deſcribam:

Foliculum eſt omnino illi ſimile, quod rhus coriaria profert, imo illius quandam eſſe ſpeciem tantum non mihi perſuadeo, non tamen ſylveſtre illud, ſed cultum eſt, non arbor, ſed virgultum eſt, quod in ramulos varios, aut virgulas potius ſeſe diffundit, nec flore admodum differt, niſi quod hujus albedo nonnihil magis in flavedinem declinet; æſtate primum florem emittit levi odore fragrantem, ſequitur bacca viridior, mox nigricans: pro potione Cha coquenda expetitur folium primum vernum, ac mollius, quod ſtudioſe ac ſigillatim unum poſt alterum

108 Whilst in Leiden in 1654, Martini convinced Jacob Golius alias Jacob van Gool that Marco Polo's *Cathay* denoted the same country as China, an insight which Golius subsequently undertook to elucidate in the note entitled *De Regno Cathayo Additamentum*, which he appended to Blaeu's atlas (Jan Julius Lodewijk Duyvendak. 1936. 'Early Chinese studies in Holland', *T'oung Pao* (Série II) XXXII: 293–344).

manu carpunt, mox in ferreo cacabo tenui ac lento igne aliquantulum calefaciunt, deinde ſupra ſtoream ſubtilem ac lævem manibus propellendo involvunt, atque involutum iterum exponunt igni, ac denuo confricant, donec intortum rurſus & conglomeratum plane ſiccum ſit: quod ſervant in vaſis plerumque ſtanneis ab omni humiditate diligentiſſime & evaporatione cuſtoditum; hoc cum in ebullientem aquam conjicitur etiam poſt diuturnam aſſervationem, ad priſtinum virorem redit ſeque expandit, aquam odore ſuavi, ſi optimum eſt, ſaporeque non ingrato, præſertim ubi adſueveris, ac colore ſubviridi inficit. Multis hujus calidi potus vires ac virtutem deprædicant Sinæ, qui eo noctu & interdiu frequentiſſime untuntur, hoſpiteſque excipiunt. tanta autem ejus varietas, ac præſtantiæ diſcrimen eſt, ut libræ pretium apud ipſos Sinas ab obolo aſcendat ad duos pluresque aureos: Illi potiſſimum adſcribitur, quod Sinæ podagram ac calculum neſciant; poſt cibos ſumptum omnem indigeſtionem ac cruitatem ſtomachi tollit; maxime enim concoctionem juvat, quin & ab ebriis adhibitum levamen iis, novaſque ad potitandum vires affert, adeoque & crapulæ omnes moleſtias levat, ſiquidem exſiccat & abſtergit ſuperfluos humores, ac vigilare cupientibus ſomniferos vapores expellit, oppreſſionemque ſomni ſtudiis vacare volentibus arcet. varia apud Sinas habet nomina juxta varia loca, eamque, quam obtinet, præſtantiam hujus urbis præclariſſimam Sunglocha vocari ſolet.[109]

The leaf which is Cha

The famous tea leaf is nowhere superior than what is found here [i.e. at Hángzhōu 杭州], and I shall describe it in brief for the benefit of the curious reader and students of botany:

The small leaf is quite similar to those produced by the Sicilian sumac. However, I am not convinced that they are of the same type of species. It is not wild but cultivated, not a tree but a type of brushwood that ramifies into a multitude of twigs and branches, nor does the flower differ that much from that of Sicilian sumac, except that the white colour tends somewhat to the yellow. In summer, it brings forth the first fragrant flower with a light perfume. This is followed by a green berry which soon blackens. In order to make the drink *Cha*, they carefully and individually pluck the first tender leaves of spring by hand one after the other. Then they hold the leaves down in an iron wok and warm them gently over a slow fire, and then place them on a fine smooth matt and roll them by hand. Then they fire them once again and roll them again until they are curled and completely dry. They keep the tea in many tin containers so that it is carefully protected against all humidity and evaporation. Even when it has been kept for a long while, when added to boiling water, the leaves uncurl and resume their original greenness and swell up, and, if the tea is of the best quality, the aroma of the infusion turns sweet and the taste becomes not unpleasant, and wherever it is added, it turns the colour greenish. Though many preach against the virtues and power of this hot beverage, the Chinese drink it frequently day and night and entertain their guests with it. Moreover, since there are many varieties of tea, and the quality differs from one grade to the next, the price of one pound even amongst the Chinese can vary from one drachma to more than two gold pieces. Such a great potency is attributed to the leaves that the Chinese know neither gout nor stones. Even after eating copiously, it alleviates indigestion and heartburn. It facilitates digestion and alleviates drunkenness, reinvigorates and restores new powers to those who drink it, relieves hangovers, acts as a diuretic and expels unwanted vapours, wards off drowsiness in those who wish to remain

109 Joannis Blaeu. 1655. *Theatrvm Orbis Terrarvm ſive Novus Atlas. Pars Sexta. Novus Atlas Sinensis a Martino Martinio S.I. descriptvs*. Amstelodami [Amsterdam]: Joan Blaeu (pp. 106–107).

> alert, and banishes sleep in those who wish to continue studying. In China, tea is named differently from place to place, depending on where it is obtained, and the most exquisite and most celebrated tea of this city is usually called *Sunglo cha* [i.e. *sōngluó chá* 鬆羅茶 or 松羅茶].

Martini refers his readers to the work about the kingdom of Tonkin by Alexandre de Rhodes, which appeared one year earlier, for additional information on tea, but he uses the term *Cha* which he must have heard in Hángzhōu on a daily basis and does not mention the Hokkien word. Martini's account also describes the pan frying of tea leaves and names the famous green *sōngluó* 鬆羅茶 tea that was available in Hángzhōu as being the finest tea. Unlike de Rhodes, Martini's testimony is based not on observations in Tonkin and visits to China, but on years of residence at the city of Hángzhōu in the heart of one of China's most famous tea growing regions.

Just over a decade later, tea is mentioned in a French published source in 1666 by the priest Jacques de Bourges, who had visited Siam in 1662. He wrote that, whereas other beverages would compromise the faculty of reason, *le Thé la fortifie* ('tea would fortify it').[110] This is an early instance of the modern French orthography *thé*, modelled after Dutch *thee*, in a published work. The French orthography is decidedly Dutch in origin, but did the French priest pick up this spelling from the Dutch East India Company *comptoir* at Àyútthaya: อยุธยา or from the Latin medical texts of Dutch physicians, or was this orthography already well established in the Dutch tea trade to France, which at this time was about three decades old? Jacques de Bourges' new French orthography *thé* is followed in a treatise published in 1671 in Lyon entitled *De l'vsage du caphé, dv thé et du chocolate*, which is most often attributed to Philippe Sylvestre Dufour (1622–1687).

Dufour's later 1685 book seems to be an expanded version of this same 1671 treatise, but some have attributed the 1671 treatise to Jacob Spon (1647–1685). Both the 1671 treatise and Dufour's 1685 book drew from Tulp and other Dutch sources about tea. Dufour also quoted several passages from Alexandre de Rhodes' chapter on *De l'Vsage du Tay*, which he mentions by name as one of his sources, but Dufour consistently changed de Rhodes' original French spelling from *Tay* to *Thé*,[111] following the orthography of Tulp, whom he likewise mentioned as a source. The author of the 1671 treatise professed to believe that his work was the first of its kind on tea in the French language.

> Comme il n'eſt pas venu à ma connoiſſance, que juſques à preſent, il ſe foit fait aucun traitté particulier du Thé …[112]

> Inasmuch as I am unaware of any particular treatise ever having dealt specifically with tea until the present time …

Dufour's new spelling quickly established itself as the standard French orthography for tea, and it occurred also in the expanded and far more influential 1685 edition, in which he was able to draw on many more sources and which he likewise devoted on coffee, tea and chocolate. Of the names for tea, Dufour wrote in 1685:

> Le Thé eſt une feüille qui vient dans la Chine & dans le Japon. Les Chinois l'apellent *Thée*, les Japonais & les Indiens *Cha* ou *Tcha*, les Tartares & les Perſans *Tai* ou *Tzai*, et les Européens *Thé*.[113]

110 Jacques de Bourges. 1666. *Relation dv Voyage de Monfeignevr l'Evéqve de Beryte vicaire apostoliqve dv Royavme de la Cochinchine par la Turquie, la Perſe, les Indes &c., juſqu'aux Royaume de Siam et autres lieux*. Paris: Denys Bechet (p. 156).

111 Philippe Sylvestre Dufour. 1671. *De l'Vsage du Caphé, dv Thé et du Chocolate*. Lyon: chez Iean Girin & Barthélemy Rivière (p. 56); also quoted by Dufour (1685: 199–200).

112 Dufour (1671: 48).

113 Dufour (1685: 195).

FIGURE 5.28
Cia ſive Te Herba, the herb tea or *cia* as depicted by Athanasius Kircher in his compendium *China Illustrata* (1667: 179)

> Tea is a leaf which comes from China and Japan. The Chinese call it *Thée*, the Japanese and the Indians call it *Cha* or *Tcha* respectively, the Tatars and the Persians call it *Tai* or *Tzai*, and the Europeans call it *Thé*.

Therefore, when Jean-Baptiste Tavernier's 1679 travel notes were republished in 1713, twenty-four years after the writer's death, all of Tavernier's original references to *Té* were changed by the editors to *Thé*.[114] Dufour adopted and popularised Jacques de Bourges' orthography and thereby established the current French spelling *thé*. However, in 1694, Pierre Pomet, in his French pharmacological compendium, furnishes a belated instance of the usage in French of the spelling *Thée* in emulation of Tulp's original orthography.[115]

Taking Tea a Hundred Times a Day

In 1667, the large compendium *China Illustrata* was published in Amsterdam by Athanasius Kircher. In this large volume, this famous German Jesuit collated information culled from the correspondence and reports that other Jesuits had sent back to Rome, and then published his grand compilation in Amsterdam. The following passage is what Kircher was able to glean about tea.

> Planta dicitur *Chà*, vel noſtro pronunciandi modo *Cià*, cujus uſus in *Chinæ* clauſtris contineri neſcius, *Europæ* quoque paulatim ſeſe inſinuare attentat. Hæc planta etſi in variis *Chinæ* regionibus, uti & in *Tartaria*, copioſo proventu lucroque naſcatur, in una tamen, quàm in altera Provincia, melioris præſtantioriſque notæ eſt, potiſſimum in Provincia *Kiangnun* in territorio civitatis *Hocicheu*; paſſim notus est potus ex ea confectus, qui calidus ſumitur, quo non ſolum univerſum *Chinæ* Imperium, ſed & *India, Tartaria, Tebeth, Morgor*, ac omnes Orientalis

114 Jean Baptiste Tavernier. 1713. *Recüeil de Pluſieurs Relations et Traitez ſinguliers et curieux de Mr Tavernier, Ecuyer Baron d'Aubonne, qui n'ont point eſté mis dans ſes ſix premiers Voyages*. Paris: Pierre Ribou (pp. 256–257).

115 Pierre Pomet. 1694. *Histoire Generale des Drogues, traitant des Plantes, des Animaux et des Mineraux; Ouvrage enrichy de plus de quatre cent Figures en Taille-douce tirées d'aprés Nature; avec un diſcours qui explique leurs différens Noms, les Pays d'où elles viennent, la manière de connoître les Véritables d'avec les Falſifiées, & leurs proprietez, où l'on découvre l'erreur des Anciens et des Moderne Le tout tres utile au Public*. Paris: chez Jean-Baptiste Loyson & Augustin Pillon (The orthography *Thée* is used fairly consistently throughout the section on tea. However, the spelling *Thé* occurs at least twice, and the misprint *Thèe* occurs once in the chapter title itself; 'Le Thèe', Livre v, chapitre v, pp. 143–145).

Oceani incolæ utuntur, non ſemel in die, ſed quoties ipſis libuerit; virtute ſanè præſtantiſſimâ pollet, quam niſi ſaepius Patrum noſtrorum invitatione didiciſſem, vix ad id credendum induci potuiſſem, cum enim diureticæ facultatis ſit, omnes meatus nephriticos ſeu renum mirificè aperit, caput ab omni vaporum fuligine liberat, adeò ut Viris literatis, nec non magna negotiorum mole diſtentis ad vigilias continuandas nobilius aptiuſque remedium à natura non conceſſum videatur, & quamvis prima vice nonnihil inſipidum amarulentumque ſit, uſu tamen ejuſmodi potus non ſolum non ſit inamœnus, ſed in tantum gulæ irritamentum exurgit, ut eo aſſuefacti ſemel, vix amplius eo abſtinere queant; Et quamvis *Turcarum Cave*, & *Mexicanorum Cocolata* eundem præſtent effectum, *Cià* tamen, quam nonnulli quoque *Te* vocant, ea multùm ſuperat, tum quia temperatioris natura eſt, tum quia *Cocolata* temporibus calidis plus æquo inflammat, *Cave* verò bilem quoque accendat; *Cià* verò ſemper nullo ad tempus reſpectu habito & innoxia eſt, & mirificè proficua, non ut dixi, ſemel ſumpta, ſed centies etiam in die.[116]

The use of the plant called *Chà*, or in our way of pronouncing it *Cià*, has not remained limited to the confines of China, but has gradually begun to make inroads into Europe. Although this plant gives rise to abundant crops and profit in the regions of China and is also used in Tartary, it exhibits a far more outstanding quality in some provinces than in others, especially in the province of Kiangnun [i.e. *Jiāngnán* 江南] in the vicinity of the city of Hocicheu [a typographical error for Hoeicheu, i.e. *Hángzhōu* 杭州]. The drink that is made out of it is known everywhere and is imbibed hot, and is consumed not only in the entirety of the empire of China, but also by the inhabitants of India, Tartary, Tibet, Mongolia, and not just once a day, but as often as they please, and this beverage boasts truly outstanding benefits, and if I had not been urged by the priests of our Society of Jesus to understand what they had come to know about this plant, then I would hardly be able to believe it myself, for this plants acts as a diuretic and opens all the ducts and pipes from the kidneys, frees the head of all sooty vapours, so that for literate men and for those who are engaged in serious business no remedy has been provided by nature that could assist them better in remaining alert and concentrating vigilantly on their work continuously at one stretch, and, although it may taste a bit bitter and insipid at first, in habitual use this beverage not only becomes not at all unpleasant, but it whets the appetite for more, so that once one grows accustomed to it, one can hardly abstain; and although the coffee of the Turks and the chocolate of the Mexicans exert the same effect, *Cià*, however, which some call *Te*, far surpasses them both, both because its nature is more temperate, but also because chocolate inflames in hot times, whereas coffee stimulates the bile; *Cià* invariably does nothing of the kind and is harmless and exerts many benefits, and, as I have said, it need not be taken just once, but may be consumed even a hundred times a day.

Kircher recorded the northern Chinese word for tea both in the spelling *Chà* and in the more Italianate orthography *Cià*, and he recorded the Hokkien word for tea as *Te*. Kircher, whose encyclopaedic works were known to contain occasional inaccuracies and to be marred by the odd flight of fancy, may have exaggerated a little when he wrote that one could drink one hundred of cups of tea a day. Some types of Chinese tea cups are quite diminutive in size, and it is known that the early imported cups from which Europeans drank tea were small in size and had no handles. Yet Kircher's

116 Athanasius Kircher. 1667. *China Monumentis, qua Sacris quà Profanis, nec non variis Naturæ & Artis Spectaculis, Aliariumque Rerum Memorabilium Argumentis Illustrata, auspiciis Leopoldi Primi* [frontispiece title: *China Illust*[*r*]*ata*]. Amsterdam: Johannes Janssonius van Waesberge [also published in a smaller format that same year in Amsterdam and Antwerp by Jacobus van Meurs] (pp. 179–180).

hyperbole may have been drawn obliquely on the testimony of Alexandre de Rhodes about his self-confessed six-day tea binge, for the venerable Jesuit was compelled to rest on the seventh day from all the tea drinking which he had done.

Many epicureans and tea connoisseurs live by the maxim that 'too much of a good thing is just wonderful', but in fact it is actually possible to drink too much tea, as a man in Arkansas found out to his detriment. In May 2014, a 56-year-old man presented himself to the emergency unit of the John L. McClellan Memorial Veterans Hospital at Little Rock in a miserable state, feeling weak and suffering from body aches. The physicians in charge measured an elevated serum creatinine level of 4.5 mg per decilitre. Renal failure with uraemia necessitated dialysis. Yet all the man's previous medical records showed normal renal function, no kidney stones and no family history of kidney disease. A renal biopsy revealed numerous oxalate crystals, interstitial inflammation with eosinophils and interstitial oedema. It was established that this nearly fatal case of oxalate nephropathy was caused by the man recently having adopted the self-confessed habit of drinking an intemperate regime of sixteen 8-ounce glasses of iced tea on a daily basis.[117]

In America, yet another extraordinary case of excessive tea drinking evidently led to skeletal fluorosis in a 47-year-old woman, who for seventeen years had 'habitually consumed a pitcher of tea made from 100 to 150 tea bags daily', thereby generating a fluoride intake of more than 20 mg per day for seventeen years running.[118] Skeletal fluorosis is endemic in areas with high concentrations of fluoride in the drinking water, whereby the intake of the naturally occurring fluoride removes calcium from the bones. Although tea has a relatively high fluoride content when compared with other beverages, the case of the American woman drinking up to 150 tea bags' worth of tea a day is nonetheless more than just a trifle extravagant. The moral of the story is that too much of even something as wholesome as tea can be unhealthy. A modicum of moderation could help to prevent an inveterate tea drinker from physiologically drowning in tea. In this connection, it is useful to recall that Lù Yǔ 陸羽 (733–804 AD) recommended three bowls of properly brewed tea as the optimum intake for a single sitting.[119]

In Tibet, Sìchuān, Qīnghǎi, Gānsù and Inner Mongolia, the traditional consumption of brick tea with high fluoride levels from early childhood has been found to be associated with dental and skeletal fluorosis in 50 % to 80 % of some Tibetan, Uighur and Khazak populations.[120] In China, the fluorine content is highest in the teas of Jiāngsū at 95 mg per kg, whilst teas from around Peking have the lowest fluorine levels at about 28 mg per kg. Teas from most Chinese tea growing regions have fluorine levels that are roughly between 40 and 45 mg per kg. The teas from Húběi, Hénán and Zhèjiāng show levels in excess of 60 mg per kg and those of Shànghǎi and Guǎngxī show levels around 30 mg per kg.[121] Notably, however, teas available from supermarkets in the United Kingdom generally contain even more elevated fluoride levels, varying within the range between 93 to 820 mg per kg, because British supermarket teas are generally made from mature leaves, and not from early flushes. This finding led researchers to conclude that the consumption of 'economy branded tea' from British supermarkets can result in an excessive fluoride intake, which can lead to fluorosis of the teeth and skeletal fluorosis.[122]

117 Fahd Syed, Alejandra Mena-Gutierrez and Umbar Ghaffar. 2015. 'A case of iced-tea nephropathy', *New England Journal of Medicine*, 372: 1377–1378.

118 Naveen Kakumanu and Sudhaker D. Rao. 2013. 'Skeletal fluorosis due to excessive tea drinking', *New England Journal of Medicine*, 368: 1140.

119 Ukers (1935, I: 20), Carpenter (1974: 118), Jiāng and Jiāng (2009, I: 47).

120 Jian Wei Liu, Yan Zhao, Yi Li, Juan Yi and Jin Cao. 2004. 'Brick tea induced fluorosis in West China', *ICOS*, 2: 574–575.

121 Jianliang Lu and Yuerong Liang. 2004. 'A study on fluorine contents in various teas (*Camellia sinensis*) of China', *ICOS*, 2: 269–270.

122 Laura Chan, Aradhana Mehra, Sohel Saikat, Paul Lynch. 2013. 'Human exposure assessment of fluoride from tea

FIGURE 5.29
The Dutch minister Philippus Baldæus (1632–1672), who recorded observations about tea whilst in Ceylon

A Dutch Preacher in Ceylon and the East Indies

The Dutch minister Philippus Baldæus (1632–1672) of Delft went to Ceylon, where he wrote a voluminous account about the island and the people. His opinionated account provides a vivid picture of life in Dutch colonial society. Tea is mentioned in a chapter dedicated to describing the lifestyle of Dutchmen in the East Indies.[123] The following passage is his succinct account about how tea was manufactured and then prepared as a beverage. The most interesting image is his description of what tea leaves look like when the tea has been prepared as an infusion and how and by whom tea

(*Camellia sinensis* L.): A UK based issue?', *Food Research International*, 51 (2): 564–570.

123 'Maniere van't leven der *Nederlanders* in Ooft-Indien', Baldæus (1672: 182).

is best handled. He offers advice on how to store tea, keep it free from moisture and exposed to air as little as possible.

> Om nu den *Tee* te koken en bequaam te maken, zoo heeft neemt men eerft een vroegh en zachter bladt, 't welk met de hant af-geplukt werdt, daar na in een yzere ketel met een langhzaam en zacht vuur word het een weynig warm gemaakt, daar na op een fijne en lichte mat geleght zijnde, wordt in een gerolt, en dan werdt het weder op 't vuur gezet ende gewreven, tot dat het in een gedrayt en t'zamen opgehoopt, geheel droogh is geworden, dan werdt de *Tee* in tinnen ofte loode Fleffen bewaart voor alle vochtigheden ende dampen die haar licht befchadigen zouden. Deze *Tee* werd (om te drinken) in ziedent water gekookt, dan openen zich de in-gerolde bladerkens, ende het water werdt met een zoete reuk vervult, en de bladeren komen weder tot haar eerfte groente en jeught.
>
> … zy moet nauwkeurigh bewaart werden in Fleffen van Tin of loot, liever dan in glas; men moetze by geen lywaat of boeken zetten, ook niet tegen een vochtige muur, het is beter datze van Mannen als Vrouwen gehandelt werde. De Liefhebbers nemen kleine loode fleskens, daar een vierendeel van een pont in gaat, om hare groote Fleffen niet dikmaals te openen, 't welk voor dezelve fchadelijk is.[124]
>
> In order to prepare the tea and make it fit for cooking, first the early and tender leaves are selected, which are picked by hand then put in an iron kettle on a slow and gentle fire in order to warm them slightly, then having been laid out on a fine and light mat, are rolled up together, then put back on the fire and rubbed about until the leaves have curled in into themselves and balled up, and then fully dried, the tea is kept in pewter or leaden bottles in order to keep out any moisture or humidity which could easily damage it. In order to drink the tea, it is put in boiling water, upon which the rolled up leaves unfurl, and the water is suffused with a sweet aroma, and the leaves are restored to their first greenness and youth.
>
> … it has to be kept in bottles of pewter or lead rather than in glass, and it should not be kept next to books or linens, nor against a damp wall. It is better that it be handled by men than by women. Aficionados keep the tea in small leaden bottles in which a quarter of a pound of tea can be fit, in order not to have to open the larger bottles too often, which is deleterious to the tea.

Baldæus stated briefly what tea is good for.

> 't Is zeker dat de *Tee* veel krachten en deughden heeft, immers zy verdrijft zware dampen, flaperigheyt en vadzigheyt, maakt nuchteren en vrolijk, verdrijft de dronkenfchap, ontledight de herffenen van de waaffemen, die anders ontftellen, en 't verftant voor een tijdt beletten zijn werkinge te doen … Voorts verdrijft de *Tee* hooftpijn en melancholye …[125]
>
> It is certain that tea possesses many effects and virtues, for it drives out heavy vapours, sleepiness and lethargy, renders sober and gay, dispels drunkenness, discharges the brain of vapours that would otherwise temporarily incapacitate reason from functioning properly … Furthermore tea alleviates headache and melancholy …

After studying theology in Leiden, Baldæus joined the Dutch East India Company and embarked for the East in 1654. From 1655 to 1657, he served in Batavia, Malacca and Makassar, and then from 1657 to 1666 he served as a minister in Ceylon under Rijcklof van Goens, preaching in Jaffnapatnam and Galle.

Baldæus visited the Malabar coast in 1661 when the Dutch occupied this coastal province. Accord-

124 Baldæus (1672: 183–184).

125 Baldæus (1672: 183).

ing to Baldæus, the Chinese tea available to Dutchmen in the East Indies and in Ceylon was superior in quality to the tea available from Japan, and he invoked a curious simile when describing the smell of good tea.

> De befte *Tee* komt uyt *China* … De *Tee* is zeer verfcheyden, dierhalven ook van prijs ende waardye … De *Chineefche Tee* overtreft in prijs ende waardye verre de *Japanfche* … De goede en befte *Tee* heeft de reuke by na van verfch Hoy, doch wel zoo lieffelijk. Indien zy twee of drie maal warm water kan verdragen, en redelijk krachtigh blijft, 't is een onfeylbaar teken dat zy van de befte zoorte is.[126]

> The best tea comes from China … Tea is quite diverse, and therefore differs much in price and quality … Chinese tea surpasses Japanese in price and quality … The good and best tea exudes an aroma which is almost like that of fresh hay, yet somehow more lovely. If hot water can be added two or three times and it still remains reasonably strong, then this is an infallible sign that the tea is of the best kind.

Baldæus quite rightly observed that Chinese tea was far less expensive than the dear tea from Japan, and no doubt for a Dutch minister in Ceylon the Chinese tea represented better value for money. However, his appraisal of Chinese tea as being superior in quality to Japanese tea is at variance both with the earlier observations made in China by Matteo Ricci and with contemporary Dutch writers as well as the realities of the market.

The finest teas did not travel well on the long voyages of the wooden Dutch East Indiamen across the seas, and the high price of Japanese tea was prohibitive for all but the most affluent buyer. Both in the East Indies and in Europe, the market valued Japanese tea more highly than Chinese tea. Underlying this market reality was the general appraisal of the relative merits of Japanese and Chinese tea, which was later echoed in 1687 by Nicolas de Blégny in France, where Dutch tea had found its first ardent buyers outside of the Low Countries.

> Pour revenir maintenant à la diftinction que je veux établir, je dois faire remarquer que le Thé de la Chine a fes feüilles plus grandes d'un verd plus brun, & d'une odeur beaucoup moins agrèable que le *cha* du Japon … le moindre Thé du Japon ne vaut pas à beaucoup prés le meilleur Thé de la Chine …[127]

> To return to the distinction which I would like to establish, I should observe that tea from China has larger leaves that are more brownish green and has a less agreeable smell than the *cha* from Japan … the lowest grade of tea from Japan is worth about as much as the best grade of Chinese tea …

Baldæus observed the heavy use and 'abuse' of tea by Dutchmen living in the East Indies, especially by women according to him. In a dour Calvinist spirit of abstemiousness, he inveighed against sweetening tea with sugar.

> De *Tee* (welke de *Chinezen* oordelen alder gezontft te zijn nuchteren gebruykt) wordt nu veel tot gezontheyt en wakkerheydt van onze Natie gedronken … Daar is onder ons Volk, en byzonder de Vrouw-luyden een groot misbruyk van de *Tee* …'t Is ook een groot gebrek dat men by de *Tee* Zuyker-kandy gebruikt: want dat nergens anders toe dient, dan om de Galle te verwekken, het tegendeel doen de *Chinezen*, die ook geen *Tee* op de volle maag gebruyken.[128]

> Tea (which the Chinese judge to be the most healthy when used soberly) is now much drunk

126 Baldæus (1672: 182, 183, 184).

127 Nicolas de Blégny. 1687. *Le bon ufage du thé, du caffé et du chocolat pour la prefervation & pour la guerifon des Maladies*. Paris: Chez l'Auteur, la Veuve d'Houry et la Veuve Nion (pp. 10, 17).

128 Baldæus (1672: 182, 183).

> to enhance the health and alertness of our nation ... Amongst our people, and amongst the womenfolk in particular, there is a great abuse of tea ... It is also a major shortcoming when people take their tea with a piece of rock sugar, for this does nothing other than stimulate the bile, and the Chinese do the very opposite, not taking tea on a full stomach.

Baldæus returned to Holland in 1666 and preached in Geervliet, where he died in 1672, the same year that his book was published.

Tea and the Travels of Tavernier

The opulent French traveller and gem merchant Jean-Baptiste Tavernier is famous for bringing a large blue diamond of well over 100 carats from Golconda to France, where it was cut down to become the 68 carat *Bleu de France* or 'French Blue', worn successively by Louis XIV, Louis XV and Louis XVI. After the French revolution, the blue diamond of the French Crown resurfaced in England in the unconscionably whittled down shape of a 45½ carat blue diamond which would later become known as the Hope Diamond. Yet the original stone with which this saga began was just one of many gems which Tavernier acquired and sold.

Tavernier is famous for his many voyages. Like Alexandre de Rhodes before him, he apparently had unpleasant encounters with Dutch officialdom in Batavia during his third voyage, which lasted from 1643 to 1649 and took him as far as Java in the Dutch East Indies. Upon returning to Europe, Tavernier published the famous account of his six Asian voyages in 1676.[129] He refrained from spewing any invective against his Dutch hosts in Batavia. Three years later and, as it just so happens, one year after the conclusion of the Franco-Dutch war (*gerebatur* 1672–1678), Tavernier evidently felt as though he had not said everything that he had wanted to say, and so he published a voluminous sequel containing additional notes on his journeys. His occasional counterfactual embellishments prompted the eminent British historian Charles Ralph Boxer to refer to Tavernier as 'that monumental liar'.[130] A categorical dismissal of the writings of this colourful personality would be unwarranted, however.

In this *après-guerre* sequel, Tavernier lambasted the Dutch East India Company and Dutch colonialists, accusing them of avarice and cruelty. He recounted how Dutch officials in Java indulged in sexual escapades both with young Javanese men and with Dutch soldiers and young seamen. Tavernier described the garrotte of the famous Dutch East India Company official Joost Schouten after he was caught *in flagrante delicto* with a young well-built French halberdier from the Champagne, by whom he had in effect been betrayed. The halberdier was in collusion with one of Schouten's fellow counsellors and a sergeant, who both managed to apprehend Schouten in bed with the halberdier in the privacy of Schouten's own quarters, where the two of them had concealed themselves behind a tapestry.[131] This nefarious case of entrapment led not only to Schouten's execution, but also to a subsequent round-up and execution of gay men at a number of Dutch East India Company posts throughout Asia.

129 Jean Baptiste Tavernier. 1676. *Les Six Voyages de Jean Baptiste Tavernier, Ecuyer Baron d'Aubonne, qu'il a fait en Turquie, en Perse et aux Indes, pendant l'efpace de quarante ans, & par toutes les routes que l'on peut tenir, accompagnez d'obfervations particulières sur la qualité, la religion, le gouvernement, les coûtumes & le commerce de chaque païs, avec les figures, le poids, & la valeur de monnoyes qui y ont court* (two volumes). Paris: Gervais Clouzier et Claude Barbin.

130 Charles Ralph Boxer, ed. 1935. *A True Description of the Mighty Kingdoms of Japan & Siam by François Caron and Joost Schouten*. London: Argonaut Press (p. xxxiii).

131 'Un jeune homme François de nation de la province de Champagne eftant ... tres-bien fait de fa perfonne' (Jean Baptiste Tavernier. 1679. *Recüeil de Plufieurs Relations et Traitez finguliers et curieux de J.B. Tavernier, Chevalier, Baron d'Aubonne, qui n'ont point efté mis dans fes fix premiers Voyages*. Paris: Gervais Clouzier, Livre Cinquiéme « Hiftoire de la Conduite des Hollandois en Afie », Chapitre XIX, pp. 359–360).

FIGURE 5.30 *Gezicht op Iudea, de hoofdstad van Siam* 'A view of Àyúttháya:, capital of Siam', where Joost Schouten confessed, during his trial at Batavia in 1644, to having first embarked upon a life of indulgence soon after his arrival in the Dutch East Indies in 1622, as painted by Johannes Vinckboon in 1662, Rijksmuseum, Amsterdam

Joost Schouten, also known as Justus Schouten, made a brilliant career in the East Indies from the moment that he first arrived in Southeast Asia in 1622 and is described by Boxer as 'beyond all doubt one of the most capable and energetic of the many competent servants of the Dutch East India Company during the seventeenth century'.[132] In 1628 in an ambassadorial capacity, Schouten conveyed a gift from the *stadthouder* Frederik Hendrik van Oranje to the Siamese king Songthammá ทรงธรรม (*regnabat* 1620–1628). From 1629 to 1632, Schouten worked for the Dutch East India Company in Japan. In 1633 in Japan, Schouten wrote the pamphlets *Memorabel verhael van den waeren oorspronck, voortganck ende nederganck van de wichtige differenten die tusschen de Nederlanders en de Japansche natie om den Chineeschen handel ontstaen zijn* 'Memorable account of the true origin, development and decline of the major differences arising between Dutchmen and the Japanese nation with regard to the Chinese trade' and *Discours van de jegenwoordigen staet ende de Generaele Compagnie best-voughende gelegenheyt in Japan* 'Discourse on the present state of affairs and the optimal opportunity for the General Company in Japan', which influenced Dutch policies in Japan.[133]

132 Boxer (1935: 139).

133 J. Leonard Blussé van Oud-Alblas. 1984. 'Justus Schouten en de Japanse gijzeling: *Memorabel verhael van den waeren oorspronck, voortganck ende nederganck van de wichtige differenten die tusschen de Nederlanders en de Japansche natie om den Chineeschen handel ontstaen zijn*. Een verslag van Justus Schouten uit 1633', *Nederlandse Historische Bronnen* (uitgegeven door het Nederlandse Historische Genootschap), v: 69–109; A

Whilst Wybrandt van Waerwijck had in 1604 received assurances of the alliance of the sultanate of Pàtta:ni: ปัตตานี in the war against the Portuguese, constellations of shared interests presented an ever fluid picture, and three decades later the sultanate was again on a friendly footing with Portugal. In May 1634, Schouten reached Siam and enchanted king Pra:sà:t Thɔ:ng ปราสาททอง (*regnabat* 1629–1656), and, as the new *opperhoofd*, Schouten reopened the Dutch *comptoir* at Àyúttháya: อยุธยา that had been withdrawn five years earlier. Together he and his protégé Jeremias van Vliet were granted a grand state audience in February 1634 before their return to Batavia. Back in Java, Schouten convinced the Dutch East India Company in Batavia to form an alliance with Àyúttháya: to subdue Pàtta:ni:. Twice, in 1634 and in 1635, Dutch and Siamese warships converged on of Pàtta:ni:. Neither battle was fierce or conclusive, but Pàtta:ni: agreed to yield to Siamese suzerainty the following year.

In March 1636, Schouten left the Dutch *factorij* in the hands of van Vliet and departed for Batavia with letters from the Siamese monarch for the governor general, only to return to Àyúttháya: in August with letters in reply from the governor general and a golden emerald-encrusted crown and a sword with damascened gold inlay as gifts from the Prince of Orange. He presented these gifts during a full court gathering in October 1636, and during the intervening month he wrote his account of Siam that was later published in The Hague under the title *Notitie vande Sitvatie, Regeeringe, Macht, Religie, Costuymen, Traffijcquen, ende andere Remercquable Saecken, des Coninghrijcks Siam* 'A note on the situation, government, power, religion, dress, commerce and other remarkable matters of the kingdom of Siam'. He conducted a mission to Japan and returned to Holland in 1638. Schouten was appointed admiral of an outgoing fleet of five ships and elected member of the *Raad van Indië* 'Council of the Indies', and, thus promoted, he embarked in April 1639 at Texel and reached Batavia in 1640.[134]

From Java, Schouten conducted missions to the Mollucas and Atjeh, and he helped to equip Abel Tasman for his famous voyage. In December 1642, just one and a half years before Schouten's execution, the beautiful Schouten Island in the Tasman Sea, just south of the Freycinet peninsula in Tasmania, was named after him by Tasman.[135] In June

German translation is contained in Fr. Carons und Jod. Schouten. 1663. Wahrhaftige Beschreibungen zweyer mächtigen Königreiche, Jappan und Siam, Benevenst noch vielen anderen, zu beeden Königreichen gehörigen, Sachen; welche im Vorbericht zu finden. Nürnberg: In Verlegung Michael und Joh. Friedrich Enders.

134 Boxer (1935: 139–143).

135 Various Dutch spellings are attested, e.g. *Schoutens Eylant* [sxɑu̯təns ɛi̯lɑnt], *Schouten Eylandt* [sxɑu̯tən ɛi̯lɑnt] or [sxɑu̯tə ɛi̯lɑnt]. Today the name of Schouten island is pronounced in English by contemporary Tasmanians as [ʃu:tn̩ ai̯lənd]. The strait between Schouten island and the Freycinet peninsula is still named Schouten passage. Also on the 4th of December 1642, Abel Tasman named the Freycinet peninsula *van der Lijns Eylant* after Cornelis van der Lijn, another member of the Council of the Indies who later served as governor general. At the time, Tasman assumed that this peninsula was likewise an island (Abel Janssen Tasman. 1642–1644. *Extract Uittet Journael vanden Scp^{r} Command^{r} Abel Janssen Tasman, bij hem selffs int ontdecken van't onbekende Zuijdlandt gehouden—Journael ofte Beschrijvinge door mij Abel Janssen Tasman van een Voyagie gedaen van de Stadt Batt^{a}* [i.e. Batavia] *in Oost Indien aengaende de ontdeckinge van 't onbekende Zuijdlant*, manuscript held at the State Library of New South Wales, album 852933, ff. 15^{v}–16^{r}, plus the depictions of the coastline by Isaac Gilsemans included between f. 15 and f. 16). The rugged escarpments on both the Freycinet peninsula and Schouten island were collectively called Schouten peaks or simply the Schoutens until at least September 1918. That month, the Tasmanian Surveyor General wrote to the Glamorgan Council requesting suggestions for individual new names for the four highest of the Schouten peaks on the Freycinet peninsula and for the highest peak on Schouten island itself. Only in the course of the 20th century were the Schoutens on the Freycinet peninsula collectively renamed the Hazards, ostensibly after a black American seaman named Richard Hazard, who purportedly whaled in the waters near Tasmania in the 1820s ('The Schouten Peaks', *The Mercury*, 18 September 1918, p. 4; My thanks go to Jodie Finlayson of Schouten House in Swansea for sharing with me this issue of the Hobart newspaper from 1918 and her findings with regard to the toponymy of the Hazards, formerly the Schoutens).

1644, Schouten was arrested for practising sodomy and for being the *verleijder van vele* 'the seducer of many'. In the Dutch East Indies, sodomy was a capital offence, and Schouten was sentenced to death by public throttling, after which his corpse was put to the torch. An eye witness to the gruesome execution in Batavia, Gijsbert Heeck described Schouten as *een man van sonderlinge wetenschap ende ongemeen verstandt* 'a man of exceptional knowledge and extraordinary intellect'.[136] The sentence implicated two of his known carnal liaisons, Jan van Cleef, a soldier of the Javanese guardhouse, and Pieter Egbertszoon van der Kruyse, an inhabitant of Batavia.[137] As reported by Tavernier, a number of Schouten's other sexual partners were hunted down in subsequent months throughout the Dutch colonies in Asia and either drowned or burnt alive.

Tavernier's account is not just of historical importance for the insights it affords into the warped morality of officialdom in Dutch colonial society in the East Indies, not to mention the abject attitudes held by Tavernier himself,[138] his narrative is of particular interest because of his valuable observations about tea in his account of the kingdom of Tonkin. Tavernier used the orthography *Té* in his French text. This spelling came closer to the modern French spelling than Rhodes' *Tay*, but Tavernier's *Té* still lacked the orthographic nicety of a superfluous aitch. He recorded the quality of various types of tea infusions.

> Ils font grand cas de cette herbe appellée *Té*, qui vient de la Chine & du Japon, & cette derniere eſt la meilleure. Ils la tranſportent dans des bouteilles d'eſtain bien bouchées, de peur que l'air ne luy oſte de ſa force, & lors qu'ils en veulent prendre, on fait boüillir de l'eau ſelon la quantité dont il eſt beſoin, & quand elle bout on y jette du Té à proportion, aſſavoir une pincée ou deux ſur la valeur d'un verre. On boit cette eau la plus chaude qu'on la peut ſouffrir, & il y en a qui prennent en meſme temps dans leur bouche gros comme un pois de ſucre candi. Ils diſent que ce Té eſt excellent pour le mal de teſte, pour la gravelle, & pour ceux qui ſont ſujets à des maux de ventre, mais pour ce dernier article, il faut quand l'eau boult y mettre un peu de gingembre. A Goa, à Batavia, & dans tous les Comptoirs des Indes, il n'y a guere de nos Europeans qui n'en prennent quatre ou cinq fois le jour, & ils ont ſoin de garder cette feüille qui a eſté boüillie pour en faire une ſalade le ſoir avec l'huile, le vinaigre & le ſucre. Le Té le plus eſtimé eſt celuy qui rend l'eau verte, celuy qui la rend jaune eſt mediocre, & celuy qui la fait rougeâtre eſt le moindre, dont on fait tres peu de cas. Dans le Japon le Roy & les

136 Heeck (1655: 101–102).

137 Schouten was turned over to the state prosecutor Viskael, and his death sentence was signed by Cornelis van der Lijn, Johan Maetsuycker, Paulus Croocq, Willem van der Beeck and Gerrit Herpersz. and endorsed by the governor general Anthonie van Diemen on the 10th of July 1644. Afterwards Schouten confessed to multiple sexual liasons with numerous partners *ſo hier, als in Sijam, ende op ander plaetſen, ſo voor zijn vertreck, als naer zijn weder-komſte uyt het Vaderlandt* 'both here [in the Dutch East Indies] and in Siam as well as in other places, both before his departure to the fatherland and also after his return'. His confession was ostensibly made freely *buyten eenighe pijne van yſer, ofte dreyghemente van dien, vrywilligh tot ontlaſtinghe van zijn conſcientie* 'without being subject to the pain of iron implements of torture or threats of the same, voluntarily in order to alleviate his conscience'. Some appealed for clemency on his behalf, but on the 12th of July the sentence was upheld by the same five of his colleagues who had signed the sentence two days earlier (Dirck van Lier. 1648. *Extract, ofte Cort Verhael Van 't Schip Nieu Delf: Hoe Godt de Heer haer heeft beſocht, door het Over-lijden van 170. Dooden, ghelijck U. L. in de by-ghevoechde Lijſte kunt leſen, ende wat haer wyders op de Reys is weder-varen, Wt-ghevaren van de Kamer van Delff, inden Jare 1646. den 9. Mey, naar Ooſt-Indien, en zijn ghearriveert den 12. September 1647. op Batavia. Hier is ook mede by-ghevoecht de Sententie van Juſtus Schouten van Rotterdam, ghewefene Extraordinaris Raet van India.* Delft).

138 Peter Boomgaard. 2012. 'Male-male sex, bestiality and incest in the early modern Indonesian archipelago: Perceptions and penalties', pp. 141–160 in Raquel A.G. Reyes and William G. Clarence-Smith, eds., *Sexual Diversity in Asia, c. 600–1950*. Abingdon: Routledge (pp. 150–154).

> Grands Seigneurs qui prennent le Té ne boivent que la fleur, qui est bien plus ſalutaire que la feüille & d'un gouſt plus agreable; mais auſſi le bruvage en eſt bien d'un autre prix que celuy de la feüille; car la coupe où ils boivent tient environ un de nos verres ordinaires, & cela revient bien à la valeur d'un écu de noſtre monnoye.[139]
>
> They make a big fuss about the herb named *Té*, which comes from China and Japan, and the latter is better. They transport it in well-sealed pewter bottles for fear that air will deprive it of its potency. When they want to have some, they boil water in the required quantity, and, when it boils, they add tea in the correct proportion, which is a pinch or two for one glass of water. This water is drunk as hot as one can bear it. There are those that take a piece of sugar candy the size of a pea in their mouth whilst drinking tea. They say that tea is an excellent remedy for headaches, for gravel and strangury and for those who are susceptible to stomach upset, but for the latter ailment one should add a piece of ginger to the tea when it is boiling. In Goa, in Batavia, and all of the colonial trading posts, there are hardly any Europeans who do not take it four or five times a day, and they are careful to keep the leaves which they have boiled in order to prepare a salad from it in the evening with oil, vinegar and sugar. The most highly valued tea is the one which turns the water green, and tea which turns the water yellow is of medium quality, and the tea which turns the water reddish is of the lowest quality, about which nobody makes a big fuss. In Japan, when the king and the noblemen drink tea, they won't drink anything but the flower, which is much more salubrious than the leaf and has a more pleasant taste, but this brew is in another price category than the beverage brewed from the leaf, since the bowl which they drink from holds about as much as one of our ordinary glasses and that costs the equivalent of one écu in our money.

139 Tavernier (1679, Quatrième Partie, Chapitre x, pp. 49–50).

In this passage, Jean-Baptiste Tavernier observed that European colonials from Goa to Batavia thriftily ate their already infused tea leaves as a salad, thereby providing independent corroboration of the report by Baldæus.

The Baroque Dutch Spelling of a Hokkien Word

The letter *h* in the spelling of the Dutch word *thee* is a quaint orthographic nicety, reminiscent of the way that the digraph *th* is used in words of Greek origin to represent the Greek letter θ theta, as in the Dutch words *thermometer* 'thermometer' or *theocratie* 'theocracy'. Otherwise, the exotic combination *th* occurs today only in three native Dutch words, i.e. *thuis* 'at home', *thans* 'presently' and *althans* 'at any rate', which are historically contractions of the older phrases *te huis*, *te hands* and *al te hands* respectively. In Dutch, there is no difference in pronunciation between the spellings *t* and *th*. Rather, the spelling *th* evokes a sense of the exotic and a suggestion of learning and sophistication.

The fancy spelling *thee* with the aitch occurs in almost all of the earliest published Dutch sources on tea. The only notable published source which wrote tea as *tee*, without the aitch, is Baldæus in his 1672 account of tea. However, Baldæus also used the more usual Dutch spelling *thee*, with an aitch, when he compared the preparation of coffee, a then new commodity from the Yemenite port of Mocha or *al-Mukhā* المخا, with the familiar Chinese method of preparing tea.[140] Even the orthography *thée*, with both an aitch as well as an acute accent, occurs in Baldæus' listing of items in the cargo of Dutch merchantmen plying the seas between

140 Baldæus (1672: 13): 'ſwarte Boontjes, Cauwa genaamt, dat de Mooren gebruyken met heet water, als de *Chinezen* de *Thee* …' [black beans named Cauwa, which the Moors prepare with hot water, just as the Chinese do with tea …].

FIGURE 5.31
Christiaan Huygens (1629–1695), who lived in Paris and regularly requested his brother Constantijn (1628–1697) to send down tea from The Hague and once asked his brother for a Dutch tea set to present as a gift to the queen of Poland, as painted by Caspar Netscher, Museum Hofwijck, Voorburg
PHOTO BY JAAP HOFSTEE

Japan and Formosa and the Dutch East Indies, as they put into port at Malacca in December 1655.[141]

Baldæus was not alone in writing *tee* without an aitch. This spelling is attested in the earliest records of the Dutch East India Company, and the spellings *tee* and *te* are attested in the correspondence of members of the Muiderslot literary circle, whom Constantijn Huygens in 1640 had described as *illustres Te-potores* 'illustrious drinkers of tea', as well as other members of the Dutch élite. Both

141 'Op deze zelve tijdt quamen Brieven in 't Leger, geſchreven uyt de Stad *Malacca* van den laatſten van Winter-maande 1655, hoe dat (door Godts zegen) op den 14, 15, en 19 van de zelve Maandt, aldaar waren aangelandt uyt *Tajouan*, de Schepen *Vlielandt, Swarte Bul, Arnemuyden*, ende *d'Angelier* … De Ladinge van deze Schepen beſtaat gemeynlijk in *Japans* Schuytjes Zilver, Staaf-koper, Aluyn, Gout, *Chineeze* Thée, *Formozaanze* Poeyer-zuyker …' [At that time letters arrived in the camp from the city of Malacca, dated the last day of December 1655, about how (by the grace of God) the ships *Vlieland*, the *Black Bull*, the *Arnemuiden* and the *Carnation* had arrived on the 14th, 15th and 19th of the same month from Tayouan [an aboriginal Sirayan

of his sons, Constantijn (1628–1697) and Christiaan Huygens (1629–1695), were likewise avid tea drinkers. When Christiaan lived in Paris, where tea was not as readily available as in Holland, he would write to his brother requesting tea from The Hague. In January 1664, Constantijn junior received a request from his brother Christiaan to send to Paris a *Cassette de celles qui contienent tous les outils pour cuire et prendre le Te*, a 'set of all the utensils needed for preparing and serving tea'. Christiaan Huygens wanted to present such a Dutch tea set to the queen of Poland.[142]

Ever since Wybrandt van Waerwijck had first made it to China in 1604, the number of Chinese junks that would come with raw and spun silk, porcelain and lacquerware directly from China to of Pàtta:ni: ปัตตานี to sell their wares to the Dutch increased year by year.[143] Soon thereafter, the Dutch had established their capital at Batavia, and once the craze for tea had taken hold in colonial society, there was a glut of tea for local consumption in the East Indies. So, the governor general Joan Maetsuycker wrote a letter from Batavia on the 25th of January 1667, in which he reassured the Lords Seventeen in Holland:

> Ende alsoo de onse in Hoccien verleden jaar, genoeg tegen danck, groote partye Chineese thee sy opgedrongen, daer wy om de groote quantiteyt hier te lande qualyck weg met weten, soo hebben oock goet gevonden, daer een goet deel van nae 't vaderlant te senden.[144]
>
> And so last year our agents in Fukien were compelled, somewhat against their inclinations, to take on large quantities of tea, since here in the East Indies we cannot easily dispose of such amounts, so that we decided to dispatch a good deal thereof to the fatherland.

Tea was widely consumed by the privileged in Holland at this time, but much of the tea was exported lucratively from Holland to France and England.

A cousin of Christiaan Huygens was Constantia Caron Boudaen, who after the death in 1673 of her husband François Caron,[145] the Dutch East India Company commander in Formosa, returned

toponym for the sandy peninsula where in 1624 the Dutch built Fort Zeelandia, located in today's Ānpíng district on the southwestern coast of Táiwān] ... The cargo of these ships consisted of Japanese silver ingots, bar copper, alum, gold, Chinese tea, Formosan powder sugar ...] Baldæus, Philippus. 1672. *Beschryving van het machtige Eyland Ceylon, met zijne onderhoorige Vorftendommen, Steden en Sterkten. Der Landen voornaamfte Havenen, Gebouwen, Pagoden, Vruchten, Beeften, enz. Der Inwoonderen geftalte, zeden, gewaat, huyshoudinge, ceremonien, enz.* Amsterdam: Johannes Janssonius van Waasberge en Johannes van Someren (p. 83).

142 ter Molen (1979: 48). Christiaan Huygens was a physicist who discovered the Saturnian moon Titan, invented the pendulum clock and fundamentally contributed to probability theory, optics, the laws of motion and gravity. He neither married nor fathered children. Presumably, the lady to whom he wished to give the tea service must have been the then 41-year-old Gryzelda Konstancja Wiśniowiecka, *née* Zamoyska, the mother of king Michał of Poland, who in the year 1664 had not yet married Eleanor Maria Josefa of Austria.

143 de Jonge (1865: 89).

144 Jonkheer mr. Johan Karel Jakob de Jonge, red. 1872. *De Opkomst van het Nederlandsch gezag over Java: Verzameling van onuitgegeven stukken uit het Oud-Koloniaal Archief. Derde Deel.* 's Gravenhage: Martinus Nijhoff (blz. 107).

145 In 1600, François Caron was born in Brussels into a French Huguenot family. Thanks to his talent with languages, he worked his way up in the Dutch East India Company from cook's mate on the *Schiedam* in 1619 via interpreter of Japanese and Portuguese to *opperhoofd* of the Dutch *factorij* at Hirado. After serving in Japan from from 1619 to 1641, in which year he sailed back to Europe, returning to Asia in 1643. From 1644 to 1646, he was the governor of Formosa. In 1647, Caron was appointed director general at Batavia under the governor general Anthonie van Diemen. In 1651, he was recalled to Holland on suspicion of embezzlement and private trading, enriching himself magnificently at the expense of the company. Formally he won his defence, but in 1652 he was honourably discharged. In 1665, in violation of his terms of contract with the Dutch East India Company, he deserted to the French, for whom he served as director general of the *Compagnie française pour le commerce des Indes orientales* until his death in 1673, when he drowned after his ship, the *Jules*, ran aground on the Cachapo shoals in the mouth of the Tagus, when he decided to put into port at Lisbon during heavy seas on the way back to France from Asia (Boxer 1935).

to Europe and settled in Paris with her daughter. When the literary figure Koenraet Droste visited Christiaan Huygens in Paris in 1680, he would go with Christiaan to visit the young widow for tea, as he recollected in verse.

> Met wien ik ging somtyts een teetje met haer drinken
> En d'oude neyging sag weer in haer ogen blincken[146]
>
> With whom I sometimes went to drink a cup of tea
> And saw again a glimmer of the old yearning sparkle in her eyes

Between 1694 and 1714, the burgomaster of Amsterdam Nicolaas Witsen regularly sent packages of tea to his friend Gijsbert Cuper, the professor of the Deventer Athenaeum. A surviving description of one of these many tea parcels read:

> een klyn flesje Tee, dat van de beste aerd is, en Tee boy met witte punten
>
> A small bottle of tea of the best quality, a Bohea tea with white points

In Dutch, the spelling *tee* is not a matter of 'dropping one's aitches', as it were, since the letter has no influence on the pronunciation in the combination *th*. Rather, adding an aitch was a sign of erudition. The spelling *thee* occurred in the earliest Dutch botanical and medical descriptions of tea and so became the standard spelling. In 1677, Gerret Vermeulen used the form *Cià* one last time alongside the already accepted Dutch orthography *Thee* for tea in what is essentially a Dutch rendering of a passage on tea in Kircher's *China Illustrata*, which had appeared ten years earlier.[147]

However, in 1889, over two centuries after the Dutch spelling for tea had been firmly established, the linguist Pieter Johannes Veth fulminated against the pretentious aitch in the Dutch word *thee* and against the folly of the French for having adopted this frivolous Dutch spelling convention at the same time that the French adopted the habit of drinking *thé* from Holland. Veth chose grumpily to go it alone, stubbornly writing *tee* in Dutch.[148] The Germans dropped the Dutch aitch and wrote *Tee*, and the Dutch on the Cape, who likewise originally wrote *thee*, later adopted the rationalised Afrikaans spelling *tee*. In Scandinavia, the Swedish, the Norwegians and the Danish all spell their words for tea as *te*, and the Finnish orthography *tee* likewise derives from Dutch *thee*, which was taken directly from the Amoy Chinese *tê* 茶.

The Portuguese already introduced the durian to Ceylon in the 16th century, but the Sinhalese never quite took to the pungent creamy fruit in the same way that it is relished by the people of mainland and insular Southeast Asia, where the fruit thrives natively. After the Dutch took over control of Ceylon in 1658, they introduced tea from Batavia, and later even tea plants.[149] However, the tea plants, if they survived, never led to plantations. Tea was introduced to the peoples of Ceylon by the Dutch, which gave rise to the Sinhalese word for tea *te* ටේ, pronounced exactly as in Dutch, and the Tamil words *tē nīr* தேநீர், literally 'tea water', and *tē yilai* தேயிலை 'tea leaves'.

The Malay word *teh* is often claimed to derive from the Dutch, for the Malay were not tea drinkers

146 ter Molen (1979: 46).

147 Gerret Vermeulen. 1677. *De Gedenkwaerdige Voyagie van Gerret Vermeulen naar Ooft-Indien, In 't jaar 1668. aangevangen, en in 't jaar 1674. voltrokken: Daar in, onder veel andere toevallen, de vermaarde oorlog tegen de koning van Makassar beknoptelijk verhaalt, en de verfcheyde voorvallen, daar in voorgekomen, en het eynde daar af, vertoont worden.* Amsterdam: Jan Claesz. ten Hoorn (pp. 29–30).

148 Pieter Johannes Veth. 1889. *Uit Oost en West. Verklaring van eenige uitheemsche woorden.* Arnhem: P. Gouda Quint.

149 Sir James Emerson Tennent. 1859. *Ceylon: An Account of the Island Physical, Historical and Topographical with Notices of Its Natural History, Antiquities and Productions.* London: Long, Green, Longman and Roberts (Vol. 1, 89–90, 99–100).

FIGURE 5.32 Three specimens of the *duit*, the smallest denomination of Dutch East India coinage, worth ⅛ of a stiver or *stuiver*, made of copper and sporting the VOC company logo.

before the Dutch colonial period. At this time, even the word *duit*, designating the smallest denomination of Dutch East India coinage, worth ⅛ of a stiver or *stuiver*, entered Malay as the general term for money. However, the Malay word may have been taken from the resident Hokkien traders directly. The variety of Hokkien most often heard throughout the Indonesian archipelago and on the Malay peninsula is Changchew 漳州 Hokkien, and the Changchew Hokkien pronunciation [tɛ ˩˧] 茶 'tea' in insular Southeast Asia has a more open vowel [ɛ] than in 廈門 Amoy or Chinchew 泉州 Hokkien. Moreover, the *yángpíng* 陽平 'light level' tone also has a deeper rising contour ˩˧ (13) in Changchew Hokkien than this tone class tends to have in Amoy or Chinchew Hokkien [te ˨˦] (24). Phonetically, Changchew Hokkien [tɛ ˩˧] 茶 therefore resembles Indonesian *teh* [tɛh], but on the Malay peninsula the allophonic variation between [ɛ] and [e] is not strictly observed, and the distinction appears not to have full-fledged phonemic status in Indonesia either.

The Khmer word *tik tae* ទឹកតែ, literally the 'juice' or 'water of tea', though ultimately a Hokkien loan, entered the language either from the Dutch or the French. The presence of the Dutch East India Company in Cambodia dates from 1636, though relations were marred by a conflict between king Ramadhipati I and Anthonie van Diemen, which lasted from 1642 to 1645.[150] Any Dutch influence on Khmer, therefore, would significantly antedate the advent of the French in the 19th century.

The Spanish word *cha* for tea was a loan from Portuguese *chá* that appeared only after 1575,[151] but in Spanish *cha* was subsequently replaced by the Dutch loan word *té*. The first occurrence of the word for tea in Italian, which dates from 1559, was in the Central Asian form written as 'Chiai' for Turkic *čāi* or *çay* چای, but afterwards the word for tea occurred in Italian as *cià*, as written by Ricci in his Chinese diaries before his death in 1610. Tea continued to appear as *cià* in Italian until as late as 1701, when this form was still used by Carletti. Once the Italians began to drink tea, however, a commodity which they obtained from Holland, the Italian word for tea became *tè*, and tea in Italian has been *tè* ever since. Only the intrepid Portuguese, who first reached the land of Cipangu, got their word *chá* 'tea' directly from the Japanese. Subsequently, the Japanese loan *cha* 茶 was reinforced by the Cantonese form *caa⁴* 茶 [tsʰa: ˨˩] 'tea', which the Portuguese heard in Macau.

The Jesuit Louis le Comte, who travelled extensively in China, in 1696 protested pedantically that the French word for tea was not the Mandarin word for tea:

150 Alfons van der Kraan. 2009. *Murder and Mayhem in Seventeenth-Century Cambodia: Anthony van Diemen vs. King Ramadhipati I.* Chi:ang Mài: Silkworm Books.

151 Álvarez-Taladriz (1954: 1, fn. 1).

> *Thé* eſt un méchant mot de la province de Fokien. Il faut dire *Tçha*, c'eſt le terme de la langue Mandarine.[152]
>
> *Thé* is a mean word of the province of Fukien. One should say *Tçha*, this is the term in the Mandarin language.

Despite the Jesuit's injunction that we should all use the Mandarin word *Tçha*, during the 1630s the Dutch word *thee* established itself firmly in the French language as *thé*. Even Louis le Comte himself, in his copious writings, used no other term than this *méchant mot* from the province of Fukien to refer to tea.

Although the Dutch adopted the Hokkien word *tê* 茶 [te ˨˦] for tea as *thee*, at least some Dutch tea cognoscenti were aware of the northern Chinese pronunciation. The well read knew from Ricci's diary that the word in Peking was *cià* (*chá* 茶). In a caption to one of the Dutch East India aquarelles of Ōsaka castle, painted around 1630 and conserved at the Algemeen Rijksarchief, the Japanese form is recorded as 'Tcha', and the Chinese form of the word as 'Tcho'.[153] Tibetan *ja* ཇ [tɕʰɑ], Nepali *ciyā* चिया and Japanese *cha* 茶 all ultimately derived from a northern Chinese form of *chá* 茶, whereas Hindi *cāy* चाय, Urdu *cāy* چاۓ, Russian *čaj* чай and Turkic *čai* are all taken from a resegmentation of the Persian expression *čā-ye khatāi* چای ختای 'tea of Cathay', whereby the Persian genitive ending or *eẓāfe* اضافه was mistaken for part of the name for tea,[154] which brings us to Persia.

152 Louis-Daniel le Comte. 1696. *Nouveaux Memoires sur l'état present de la Chine* (three volumes). Paris: chez Jean Anisson, Directeur de l'Imprimerie Royale (Vol. I, p. 457).

153 'ende 't cruijdt Tcha … bij de Chineesen genaemt Tcho' in M.P.H. Roessingh. 1970. 'Van Hirado naar Deshima', *Spiegel Historiael*, 5 (3): 138–143.

154 Teles e Cunha (2002: 297).

A Persian Interlude

Alongside the maritime spread of tea, the overland trade in tea continued through the Asian hinterland, and in this period independent tidings of tea and coffee reached Europe from Persia. Seventy-eight years after the Persian expression for the *čā-ye khatāi* چای ختای 'tea of Cathay' was first recorded in Ramusio's posthumous *Navigationi et Viaggi*, a second European source mentioned this Central Asian word for tea. Adam Olearius travelled as the secretary to the embassy of Frederick III, the duke of Holstein-Gottorp, to the Shah of Persia. The sojourn of the mission in Isfahan lasted from the 3rd of August until the 21st of December 1637. The trade mission failed chiefly due to the pomposity and cultural insensitivity of the merchant Otto Brüggemann, who upon his return was tried, found guilty of incompetence and publicly executed in Hamburg on the 5th of May 1640.

Olearius later published an account of the embassy, in which he provided an account of tea and coffee in Persia as well as a vivid description of the different effects of wine, tea and coffee on the Persians in the city of Isfahan. He painted a vivid picture of the three very different types of social milieu to which each of these three drinks were conducive.

> Gegen dem Nordertheil des Maidans findet man etliche Schenck-Tabernen. Als Schire chane, Tzai chattai chane, vnd Kahwæ chane. Schire chane ſeynd Weinkrůge oder Schencken, in welchen meiſt vnzůchtige Leute ſitzen, laſſen die Surker oder Tåntzer, welches Knaben ſeynd, mit geilen Gebården vnd Poſituren vor ſich tantzen, wenn dann hierdurch jhre Begierde erreget, vnd ſie vom Wein entbrand, lauffen ſie entweder mit einem Knaben zu Winkel, oder in die gemeinen Hurhåuſer. In Tzai chattai chane trincken ſie ein warm Waſſer, welches von einem Kraute, ſo ſie Tzai nennen, vnd auß der Taratarey Chattai gebracht wird, mit jhrem groſſen Fenchelſamen (der ſo groß als vnser Rocken) kochen, vnd mit andern wolriechenden dingen vermiſchen. Halten es fůr ein ſehr geſund; den Magen, Lung vnd Leber dienliche Artzeney, ſol ſon-

FIGURE 5.33
Adamus Olearius or Adam Ölschläger, secretary to the embassy of Frederick III to Persia, as painted by Jurriaen Ovens in 1669, oil on canvas, 62 × 50.5 cm

derlich das Geblüte wol reinigen, sie sagen, daß sie sich frisch vnd starck darnach befinden. Bey solchem Trincken haben sie das Bretspiel, oder auch das Schachspiel vor sich, mit diesem wissen sie noch meisterlicher, als die Russen welche auch sehr darinnen geübet, vmbzugehen, vnd sagen, daß es von jhnen erst erfunden sey, wie es auch fast der Name Schach, welches den König bedeutet, mit sich bringet.

Cahwæ chane ist ein Krug, in welchem die Toback vnd schwartzwasser Trincker sitzen. Dann das Toback trincken ist in Persien so gemeine, daß man sie allenthalben, auch in jhren Kirchen, sitzen vnd schmeuchen sihet ...

Bey dem Toback trincken haben sie das schwartze heisse Wasser Cahwæ alsbald zur Hand. Es ist eine Frucht, so sie auß Misser oder Egypten bekommen, an der Substantz den Türckischen, an eusserlicher gestalt, vnserm Weitzen nicht vnehnlich, an grösse aber einer Türckischen Bone gleich, gibt weis Mehl. Die Körner braten, oder brennen sie vielmehr in einer druckenen Pfannen, reibens klein, kochen es, vnd trincken das Wasser. Es hat einen brandigen vnd vnanmuhtigen Geschmack; Es sol sehr kalten, vnd die Natur vnfruchtbar machen, deswegen es die meisten gebrauchen. Dann vielen nicht beliebet mit jungen Weibern alsbald Kinder zuzeugen, wie etliche selbst bekanten, vnd kamen zu vnsern Medicum, weil Er seiner Kunsthalber vnter jhnen beruffen war, vnd fragten: Ob Er jhnen nicht etwas gewisses verordnen könte, daß die jungen Weiber nicht so viel Kinder bekämen, denen der Medicus antwortete; Er wolte jhnen lieber helffen Kinder zeugen, als darvon bringen.[155]

155 Adamus Olearius [i.e. Oelschläger]. 1647. Offt begehrte Beschreibung Der Newen ORIENTALischen REISE, So durch Gelegenheit einer Holsteinischen Legation an den König in Persien geschehen. Worinnen Derer Orter vnd Länder, durch welche die Reise gangen, als fürnemblich Rußland, Tartarien

Along the northern side of the maidan there are a number of drinking taverns, these being wine pavilions [i.e. *šīra khāna* شیره خانه], Cathay tea pavilions [i.e. *čā-ye khatāi khāna* چای ختای خانه] and coffee pavilions [i.e. *qahwa khāna* قهوه خانه]. The wine pavilions are taverns or pubs, mostly frequented by intemperate people, who have the *surgar* [i.e. *surgar* سرگر 'maker and vendor of intoxicating drink'] or dancers, who are boys, dance before them and affect lascivious gestures and postures, so that, when their passions are aroused and they are heady with wine, they either take one of the boys off with them into a corner or they head off to the common brothels. By contrast, in a Cathay tea pavilion, they drink a type of warm water that is brewed from a herb which they call *čai*, and which comes from the Tartary of Cathay, and which they cook with their big fennels seeds, which are the size of rye kernels, and which they mix with other fragrant things. They hold this herb to be a highly salubrious medicine, good for the stomach, lungs and liver, which particularly cleanses the blood, and which, they say, makes them feel fresh and full of vigour. When drinking this beverage, they play board games or the game of chess, with which they are more proficient than the Russians, who are also quite well-practised, and they say that chess was invented by them, which stands to reason, since the term *šāh* [which is contained in the name for chess] means 'king' in Persian.

A coffee pavilion is a tavern, where they smoke tobacco and drink blackwater. The smoking of tobacco is so common in Persia that they can be seen puffing away all over the place, even in their mosques …

When they smoke tobacco, they always have the black hot water called coffee at hand. It is a fruit which they get from *Miṣr* or Egypt, and which in external appearance is not dissimilar to Turkish wheat or to our own wheat, but is more the size of a Turkish bean, yielding a white flour. Generally, however, they roast or bake the kernels in a dry pan, grind them finely, boil it and then drink the water. It has a burnt and not particularly charming taste. It is said to chill the humours of the body and cause infertility, which is the reason why most of them use it, since many of them want to have their way with young maidens but do not want to conceive children, as several of them confessed to me. So they came to our physician, who had been summoned to them on account of his skills, and asked whether he could not prescribe something special for them so that the young maidens did not get so many children, to which the physician replied that he would rather help them to bear more children, rather than prevent them from doing so.

The sybaritic exploits of the men in the wine pavilions of Isfahan, as recorded by Olearius, involved the paederastic tradition of *bača bāzi* بچه بازی 'boy play', practised since antiquity from Persia to Central Asia, but today still conserved primarily in Afghanistan. This exuberant form of hedonism, fueled by a modicum of alcohol, contrasted with the decidedly more sedate pastime of playing chess, in which the tea drinkers of the city indulged. By contrast, Olearius claimed that the intemperate use of coffee not only rendered men less likely to beget child but also enhanced their libido, which he alleged was already very much heightened in Persian men when compared with German men. According to Olearius, the use of coffee as an aphrodisiac by virtue of its preventing conception had inspired the following Persian saying.

ان سیه رو که نام اوست قحوه
قاتل نوم قاطع شهوه

vnd Perſien, ſampt jhrer Einwohner Natur, Leben vnd Weſen fleiſſig beſchrieben, vnd mit vielen Kupfferſtůcken, ſo nach dem Leben geſtellet, gezieret. Item Ein Schreiben des WolEdeln rc. Johan Albrecht Von Mandelslo, worinnen deſſen Oſt Indianiſche Reiſe ůber den Oceanum enthalten, Zuſampt eines kurtzen Berichts von jetzigem Zuſtand des euſſerſten Orientaliſchen Ko̊nigReiches Tzina. Schleßwig: Bey Jacob zur Glocken (pp. 421–422).

Ohn Sye Ru ki namiuſt kahvvæ,
Katil naum kathehi ſchahevve.

Iſt auff Deutſch ſo viel:
Cahvvæ du ſchwartzes Angeſicht,
Daß man dich doch mag leiden?
Wo du hinkompſt, muß man da nicht
Die Luſt vnd Beyſchlaff meiden?[156]

آن سیه رو که نام اوست قهوه
قاطل نوم قاطع شهوه

ān siye-ru ke nām-e u-st qahve
qātel-e noum qāte'-e šahve

which in German amounts to as much as:
That blackened face whose name is coffee
Is it not a wonder that we put up with you?
Wherever you come, are we not just barely able
To resist desire and forego sexual intercourse?[157]

The Persian notion that coffee caused infertility in men spread and gained some currency in Europe. In 1674, this idea was exploited by women in London in the broadsheet which read: THE WOMEN'S PETITION AGAINST COFFEE REPRESENTING TO PUBLICK CONSIDERATION THE Grand INCONVENIENCES accruing to their SEX from the Exceſsive Uſe of that Drying, Enfeebling LIQUOR. The women complained that 'the continual flipping of this pitiful drink' rendered their men as *'Lean* as Famine' and unable to perform with their womenfolk and that 'the Exceſſive uſe of that Newfangled, Abominable, Heatheniſh Liquor called COFFEE ... has so Eunucht our Huſbands' that the men ran 'the hazard of being *Cuckol'd* by *Dildo's*'.[158]

Of course, such a pamphlet provoked a retort in the form of a pamphlet entitled 'The Mens Anſwer to the Womens Petition against COFFEE, vindicating their own Performances, and the Vertues of that Liquor, from the Undeſerved Aſperſions lately caſt upon them by their SCANDALOUS PAMPHLET', in which the men in retort argue that coffee is an aphrodisiac which enhances virility. Coffee holds ...

> the most thriving Myſteries of Debauchery; There being ſcarce a Coffee-Hut but affords a Tawdry VVoman, a wonton Daughter, or a Buxome Maide, to accommodate Cuſtomers ... Coffee is the general Drink throughout Turky, and thoſe *Eastern* Regions, and yet no part of the world can boaſt more able or eager performers, than thoſe Circumciſed Gentlemen, who, (like our modern Gallants) own no other joys of Heaven, than what conſiſts in Veneral Titillations ... Coffee Collects and ſettles the Spirits, makes the erection more Vigorous, the Ejaculation more full, adds a ſpiritualeſcency to the Sperme, and renders it more firm and ſuitable to the Guſto of the womb, and proportionate to the ardours and expectation too, of the female Paramour.[159]

156 Adam Olearius Aſcanius. 1656. Vermehrte Newe Beſchreibung Der Muſcowitiſchen vnd Perſiſchen Reyse, So durch gelegenheit einer Holſteiniſchen Geſandſchafft an den Ruſſiſchen Zaar vnd König in Perſien geſchehen. Worinnen die gelegenheit derer Orter vnd Länder, durch welche die Reyſe gangen, als Liffland, Rußland, Tartarien, Meden vnd Perſien, ſampt dero Einwohner Natur, Leben, Sitten, Hauß- Welt- und Geiſtlichen Stand mit fleiß auffgezeichnet, vnd mit vielen meiſt nach dem Leben geſtelleten Figuren gezieret, zu befinden. Schleßwig: Gedruckt in der Fürſtlichen Druckerey, durch Johan Holwein (1656: 599; cf. Olearius 1647: 423).

157 The form سیه corresponds to modern Persian سیا 'dark, black'. The couplet only rhymes when the *tā' marbūṭah* in the last word *šahvat* شهوت is pronounced in the Arabic fashion as *šahve* شهوه, as in the original orthography reproduced by Olearius. I thank Nicolas Michael Schorer for his assistance with the Persian.

158 THE WOMEN'S PETITION AGAINST COFFEE REPRESENTING TO PUBLICK CONSIDERATION THE Grand INCONVENIENCES accruing to their SEX from the Exceſsive Uſe of that Drying, Enfeebling LIQUOR. Preſented to the Right Honorable the Keepers of the Liberty of *VENUS. By a Well-willer. London,* Printed 1674.

159 The Mens Anſwer to the Womens Petition against COFFEE, vindicating their own Performances, and the Vertues of that Liquor, from the Undeſerved Aſperſions lately caſt upon them by their SCANDALOUS PAMPHLET. London: Printed in the Year 1674.

Other than the concern about the fertility of their menfolk, the envy of these English women was no doubt piqued by their exclusion from London coffee houses, which in England, just like in Persia, were originally an exclusively male domain. Coffee is one of the two topics of Chapter Seven.

Olearius reported that in Persia the tea was brewed not just from the pure tea leaves, but with an admixture of fennel seeds and other flavourings. The expanded 1656 edition of Olearius' travels essentially repeated this passage, though referring to tea as **ein frembd warm Wasser** 'an alien warm water' and slightly rewording his definition of a Persian coffee house as follows:

> Kahweh chane **ist ein Krug, in welchem die Taback-schmäucher vnd** Kahweh **Wassertrincker sich finden lassen.**[160]

> The *qahwa khâna* is a tavern where tobacco puffers and coffee water drinkers congregate.

This passage is notable for mentioning the unholy alliance of coffee and tobacco, a noxious plant which Europeans first saw used by the Arawaks on Cuba in 1492 and which European traders afterwards most lucratively managed to propagate to Europe and to Asia as far as China and Japan by the end of the 16th century. Early medical manuals such as that of Johannes Baptist van Helmont (1580–1644) already warned quite plainly that *Tabacum nocet* 'tobacco is harmful'.[161]

The expanded 1656 edition of Olearius' account of the duke's Persian embassy also contains additional information on tea, although we know from citations that Olearius had managed meanwhile to consult the writings of Maffei and van Linschoten. The passage is interesting because it records an Indian word for tea which resembles the modern Nepali form more closely than it does the current Hindi form. The source corroborates once again that the tea in Persia is the inferior quality black tea which the Chinese exported to Tibet and Central Asia and reports …

> **… daß zu Ispahan am Maidan vnter andern Krügen auch einer sey, welchen sie** Tzai chattai chane **heissen, in selbigem, wie auch an andern Orten trincken sie ein heiß schwartz Wasser, welches gekochet wird aus einem Kraute, so die Usbekischen Tartern von Chattai in Persien bringen. Es hat längliche spitze Blätter, etwa einen Zoll lang vnd einen halben breit, sihet, wenn es gedürret, schwärtzlich, rollet vnd krümmet sich als Würme zusammen. Es ist aber eben das, was die Tzineser Thee, die Japaner vnd Indianer, Chia vnd Chaa nennen, dann bey diesen Nationen diß Kraut in hohem Werth gehalten wird. Die Perser kochen es mit klarem Wasser, Aniß oder Fenchel, etliche thun auch ein wenig Negelken darzu, vnd versüssen es mit Zucker. Hat eine constrigirende oder zusammen ziehende art. Es wird diesem Wasser von den Persern, Chinesern, Japanern vnd Indianern eine fürtreffliche Krafft vnd Wirckung zugeschrieben: Es sol den Magen, Lung und Leber, dem Geblüte, ja allen** viſcerib. **des Menschen heilsam seyn, selbige reinigen, stärcken, den Stein vertreiben, daß Häuptwehe vnd alle übrige Feuchtigkeiten, wodurch der Mensch träge vnd schläfferig wird, benehmen. Einer, der diß Wasser fleissig gebrauchet, sol etliche Nacht munter vnd wachsam ohne beschwerung des Schlaffs sitzen vnd Kopff Arbeit mit Lust verrichten können. Wenn es mässig genossen wird, sol es den**

160 **Olearius Ascanius** (1656: 558).

161 Johannes Baptist van Helmont. 1648 [posthumous]. *Ortvs medicinæ. Id est, Initia Physicæ Inavdita: Progreſſus medicinae novus, in morborvm vltionem, ad Vitam Longam, Avthore Ioanne Baptista van Helmont, Toparchâ in Merode, Royenborch, Oorſchot, Pellines, &c. Edente Avthoris Filio Francisco Mercvrio van Helmont, cum ejus Præfatione ex Belgico tranſlatâ.* Amsterodami [Amsterdam]: apud Ludovicum Elzevirium. A famous 72×71 cm portrait in the Natural History Museum in London has for decades been mistakenly touted—and continues falsely to be presented—as a portrait of the English naturalist Robert Hooke. The painting in question is in fact a portrait of the Flemish scientist Johannes Baptist van Helmont, painted by Mary Beale ca. 1674 on the basis of renderings made during van Belmont's lifetime (William B. Jensen. 2004. 'A previously unrecognised portrait of Joan Baptista van Helmont (1579–1644)', *Ambix*, LI (3): 263–268).

FIGURE 5.34
Johan Albrecht von Mandelslo, who in 1638 opted out of the mission and travelled on his own from Isfahan to India and beyond

Menschen nicht alleine allezeit bey guter Gesundheit erhalten, sondern auch zu einen hohen Alter bringen.[162]

… that in Isfahan there is one amongst the various types of tavern which is known as a Cathay tea pavilion. Here and in other places they drink a hot black water which is cooked from a herb which the Uzbek Tatars bring to Persia from Cathay. It has long pointed leaves about an inch long and half an inch wide and looks blackish when dried, and is all rolled and curled up like worms. Yet this is what the Chinese call *thé*, the Japanese and Indians call *cha* and *ciyā* respectively, for this herb is highly valued in these nations. The Persians boil it in clear water, adding anise and fennel and sometimes even a bit of clove, and sweeten it with sugar. It has an astringent quality. The Persians, Chinese, Japanese and Indians ascribe excellent effects to this herb. It is supposed to heal, cleanse and strengthen the stomach, lungs, liver, circulatory system and all internal organs, get rid of stones and eradicate headaches and various humours which cause lethargy or sleepiness. Anyone who uses this water avidly will be able to spend many nights awake and alert without being afflicted by drowsiness and able to carry out mental labour with zest. When used in moderation, it not only maintains constant good health but also ensures longevity.

In 1638, when the embassy from Hamburg to the Shah of Persia began to fail, the nobleman Johan Albrecht von Mandelslo, who was 22 years old at the time, opted out of the mission and travelled on his own from Isfahan to India and beyond. Later, von Mandelslo ended up in Madagascar, from where he sent back an account of his travels to Olearius, before he died in 1644 at the age of 28. Olearius published an abbreviated version of von Mandelslo's report as a lengthy appendix to the first 1647 edition of his own book. In 1668, Olearius

162 Olearius Ascanius (1656: 599–600).

independently published a complete and annotated version of von Mandelslo's report, in which he clearly distinguished von Mandelslo's original prose from his own commentaries.

The following observations were made by von Mandelslo in 1638 at the Indian city of Surat. He recorded that tea at the time was also drunk in India very much in the Persian fashion. His report also tells us that Indian tea had the same colour as black coffee in Persia. He also corroborated the accounts that Persians used coffee because it ostensibly enabled them to have more frequent sex without their sexual escapades resulting in numerous unwanted pregnancies.

> Sonst gebrauchten wir bey unser tåglichen Zusam̃enkunfft des Abends viel von dem schwartzen Wasser, so aus dem Kraut Thee gekochet wird. Dieses Theewasser trincken ist in Indien gar gemein, und wird nicht allein von den Indianern, sondern auch von den Engellåndern und Hollåndern sehr beliebet, und genutzet, sol allen faulen Schleim außführen, den Magen wårmen, und die dawung befodern, wir truncken dasselbe tåglich drey mahl, nemlich des Morgens frůhe; nach der Mittages Mahlzeit, und auff den Abend. Die Perser trincken auch ein schwartz Wasser Kahwè genant, ist diesem an der Farbe gleich, můssen beyde gar heis getruncken werden, haben aber widerwertige Wirckunge, dann das Kahwè sol sehr kůhlen, and daher die Natur unfruchtbar machen, deßwegen es auch die geilen Perser gerne gebrauchen, dieses Thee aber sol den Magen und innerliche Glieder messig wårmen und stårcken. Und halte ich gåntzlich dafůr, daß vom Gebrauch dieses Thee, weil es eine zusam̃enziehende Krafft hat, meine Leibesbeschwerung sich enderte, und der Bauchfluß auffhörete.[163]

> [… in Surat] every day during our evening gatherings we drank lots of that black water, cooked from the herb *Thee* [tea]. It is quite a generalised practice to drink *Thee* water in India, and this practice is not just observed by the Indians themselves, but also quite popular amongst the Englishmen and Dutchmen. It detoxifies, warms the stomach and aids digestion. We would drink it three times a day, in the early morning, after the midday meal and in the evening. The Persians also drink a black water known as *Kahwè* [coffee], which has the very same colour. Both must be drunk hot, but they have very different effects, for coffee cools the body and reduces fertility, which is why the lustful Persians use lots of it, whereas this *Thee* gently warms and strengthens the stomach and the internal organs, and I can vouch from personal experience that the use of *Thee* through its astringent properties alleviated my physical affliction and caused my diarrhoea to desist.[164]

To these observations by von Mandelslo, Olearius added his own commentary:

> Dieses Kraut Thee wird so wol von den Persern, Tzinesern und Japanern als Indianern, auch nunmehr von den Frantzosen und Hollåndern gebrauchet. Die Schiffe, so nach Indien gehen, bringen jetzd diß Kraut

163 Johan Albrecht von Mandelslo. 1668 [posthumous]. Des fůrtrefflichen wolversuchten Meckelburgischen von Adel Herrn JOHAN ALBRECHT von Mandelslo Morgenlåndische Reise-Beschreibung. Worinnen zugleich der Zustand der fůrnembsten Ost-Indianischen Lånder, Stådte und der Einwohner Leben, Sitten, Hanthierung und Glauben; wie auch die gefåhrliche Schifffahrt über das Oceanische Meer berichtet wird. Schleßwig: Gedruckt in der Fůrstlichen Druckerey durch Johan Holwein (p. 39).

164 By contrast, the following prudishly abridged rendering appears in the 1692 English translation of von Mandelslo's book: 'At our ordinary meetings every day, we took onely *Thé*, which is commonly ufed all over the *Indies*, not onely among thofe of the Country, but alfo among the *Dutch* and *Englifh*, who take it as a Drug that cleanfes the ftomach, and digefts the fuperfluous humours by a temperate heat particular thereto. The *Perfians* inftead of *Thé* drink their *Kahwa*, which cooles and abates the natural heat which *Thé* preferves.' in J. Albert de Mandelslo. 1692. *The Voyages & Travels of J. Albert de Mandelslo* (*A* Gentleman *belonging to the Embafsy*), *fent by the Duke of Holstein to the great Duke of Muscovy, and the King of Perfia into the East-Indies, Begun in the year* MDCXXXVIII *and finifh'd in* MDCXI. *Rendred into Englifh, by John Davies of Kidwelly*. London: Thomas Dring and John Starkey.

> mit heraus, und kan mans von den Holländischen Drogisten oder Materialisten bekommen.
>
> This herb *Thee* is used both by Persians, Chinese, Japanese and Indians as well as increasingly by Frenchmen and Dutchmen. The ships which sail to the Indies now import this herb so that it can easily be obtained from Dutch apothecaries or suppliers.

Tea in India in the 17th century was therefore still very much drunk as it was in Persia, where the tea which came via the overland trade yielded a blackish liquor. From northern Germany, Olearius observed how the Dutch tea rage had become the fashion in France.

In order to compete with the Dutch East Indies Company and its dozen Dutch forerunners, several small French companies were created, such as the *Compagnie française des mers orientales* at St. Malo in 1601, the *Compagnie de Montmorency pour les Indes orientales* in 1611 and the *Compagnie des Moluques* in 1615, but none of these companies became significant players in the tea trade. In 1656, Olearius observed that French efforts to buy up most of the tea on the Amsterdam market reduced the availability of tea there.

> Es ist dieses Kraut Thee nunmehr auch in Holland wol bekand, vnd bringen es die Ost Indienfahrer mit heraus. Man kan es zu Amsterdam habhafft werden, wiewol noch nicht in grosser menge, weil, wie ich bin berichtet worden, die Frantzosen es sehr an sich kauffen sollen.
>
> It is this herb currently known as *Thee* in Holland, which is shipped in on Dutch East Indiamen. It can be procured in Amsterdam, although not in very great quantities, as the French reportedly try very hard to buy it all up.

In 1656, France was the largest foreign buyer of the tea that was being shipped to Europe by the Dutch East India Company. Tea was imbibed by members of the French aristocracy and so tea came to be associated with silverware, porcelain, fine tableware, *pâtisseries* and the crooking of the little finger whilst drinking. Tea in the West had at this time not yet become a drink for the masses. Soon, however, England would overtake France as the chief foreign buyer of Dutch tea from the East.

In August 1664, the famous *Compagnie française des Indes orientales* was founded by Jean-Baptiste Colbert under Louis XIV. The latter company flourished, especially between 1720 and 1740, but its presence in the tea trade remained marginal. Celebrated, however, are the two voyages of the French frigate *l'Amphitrite* to Canton in 1700 and 1701. After the first voyage under captain de la Roque, the frigate returned on the 3rd of August 1700, laden with valuable Chinese goods including 60 quintals or over 2,900 kg of tea. The second voyage under captain de la Rigaudière met with adversity in the form of five tempests and the French vessel being barred from sailing up the Pearl River past the Bocca Tigris for four months.[165] Throughout this long period, therefore, the French continued mainly to acquire their tea from Holland, where their presence was strongly felt on the Dutch tea market.

165 Martine Raibaud and François Souty. 2008. 'Le commerce du thé, de la rivière des Perles à l'Atlantique au XVIIe siècle', pp. 13–34 in Raibaud and Souty (op.cit.).

CHAPTER 6

The English Take to Tea: Wars in Europe

Tea as a Plant Species

Rembert Dodoens of Mechelen employed the binomial system of nomenclature to label species in the six volumes of his detailed and colourfully illustrated herbal of 1554,[1] and Gaspard Bauhin of Basel did so too in his hefty manual of plant species, published in 1623. Species specifications of this format naturally developed into the binomial system ever since they were applied with great consistency by Rembert Dodoens, who described many hundreds of species names such as *Anchufa onoclia, Anchufa alcibiadion, Capficum oblongius, Portulaca fylueftris, Raphanus fatiuus* and so forth. Such binomial designations characteristically consist of a noun followed by a possessive or an adjectival modifier, and such labels likewise occur in the botanical writings of Clusius from 1574.[2]

Prosper Alpinus, today more often known by the Italianate form of his name *Prospero Alpini*, in 1591 likewise used the binomial system of labelling plant species, with such species designations as *Phafiolus rubrus, Cypervs rotundus, Sambac arabigvm* and *Ligustrum aegiptium*.[3] This system of labelling species, which is sometimes erroneously credited to Linnæus, was already generally in use amongst botanists long before. Similarly, numerous binomial species names such as *Calamus aromaticus, Cassia fistula, Costus indicus* and *Nux indica* abound in Dutch botanical and colonial references, such as the work of Isaac Commelin,[4] long before this system of labelling species was adopted and codified by Linnæus.

One of the species which Bauhin classified in 1623 was tea. This first attempt at a taxonomical classification of the plant was based on the description which had appeared in Jan Huygen van Linschoten's work. However, Bauhin erroneously classified tea as a species of fennel or *Fœniculum* under the Umbelliferæ.[5] This mistaken conjecture

1 Rembert Dodoens, Medecijn van der ftadt van Mechelen. 1554. *Cruijdeboeck. In den welcken.die gheheele hiftorie, dat es Tgheslacht, tfatfoen, naem, natuere, cracht ende werckinghe, van den Cruyden, niet alleen hier te lande waffende, maer oock van den anderen vremden in der Medicijnen oorboorlijck, met grooter neerfticheyt begrepen ende verclaert es, met der feluer Cruyden natuerlick naer dat leuen conterfeytfel daer by gheftelt.* Antwerpen: by Jan van der Loe.

2 Carolus Clusius. 1574. *Aromatvm et Simplicivm aliqvot Medicamentorvm apvd Indos Nascentivm Historia: Primùm quidem Lufitanica lingua per Dialogos confcripta, D. Garcia ab Horto, proregis Indiœ Medico, auctore: Nunc verò Latino fermone in Epitomen contracta, & iconibus ad viuum expreßis, locupletioribusq́ annotationculis illuftrata à Carolo Clvsio Atrebate.* Antverpiæ: ex officina Chriftophori Plantini, Architypographi Regij.

3 Prosper Alpinus. 1591. *Prosperi Alpini de Medicina Aegyptiorvm Libri Qvatvor.* Venetiis [Venice]: apud Francifcum de Francifcis Senenfem.

4 Isaac Commelin. 1646. *Begin ende Voortgangh, van de Vereenighde Nederlantfche Geoctroyeerde Oost-Indifche Compagnie Vervatende de voornaemfte Reyfen, by de Inwoonderen der felver Provincien derwaerts gedaen. Alles Nevens de befchrijvinghen der Rijcken, Eylanden, Havenen, Revieren, Stroomen, Rheeden, Winden, Diepten en Ondiepten; Mitfgaders Religien, Manieren, Aerdt, Politie ende Regeeringhe der Volckeren; oock meede haerder Speceryen, Drooghen, Geldt ende andere Koopmanfchappen met veele Difcourfen verrijckt: Nevens eenighe Koopere Platen verciert. Nut ende dienftigh alle Curieufe, ende andere Zee-varende Liefhebbers* (two volumes). Amsterdam: Johannes Janssonius.

5 Casparus Bauhinus Basileensis. 1623. *ΠΙΝΑΞ Theatri Botanici Cafpari Bavhini Bafileenf. Archiatri & Profefforis Ordin. five Index in Theophrafti Diofcoridis Plinii et Botanicorum qui à Seculo fcripferunt Opera: Plantarvm circiter sex millivm ab ipfis exhibitarvm nomina cvm earundem Synonymiis & differentiis Methodicè fecundùm earum & genera & fpecies proponens.* Basel: Ludovicus Rex. In the section on the genus *Fœniculum*, Bauhinus refers to van Linschoten's earlier report that *cha* from Japan is drunk as powdered tea and served to honoured guests: 'Chaa, herba in Japonia, ex cujus pulvere decoctũ preciofum parant, & hofpitibus dignioribus propinant: & olla in qua hujus herbæ decoctio facta, in eo apud ipfos precio, in quo apud nos Adamantes sunt: Linfcot.par.2.Ind.or.c.28.' (1623, lib. IV, sect. IV, p. 147).

FIGURE 6.1
Gaspard Bauhin of Basel (1560–1624), as depicted in the matriculation register of the rectorate of the University of Basel, Universitätsbibliothek Basel, Vol. 2 (1586–1653), AN II 4, f. 71ʳ

on Bauhin's part was inspired by his medical knowledge of the warm barley-based beverage known as *ptisana*, in use amongst the ancients. On the basis of van Linschoten's description, Bauhin had gleaned that tea was drunk warm, just like *ptisana*. At this time, Europeans knew soups, stews and broths, but no warm beverages. Bauhin knew that the ancients mixed this medicinal brew with fennel when administering it to nursing women to stimulate lactation, and that this decoction also acted as a diuretic.[6]

6 Casparus Bauhinus. 1658. *Theatri Botanici Historiæ Plantarvm ex veterum et recentiorum placitis propiaq. observatione concinnatæ*. Basel: Ioannes König (col. 453); cf. *'Fenoüil commun* … la decoction de la feüille prife, eft bonne aux accidens des reins & de la vefcie, parce qu'elle fait uriner'

FIGURE 6.2
Willem ten Rhijne (1647–1700)

In 1665, Johan Nieuhof was quite adamant about the idea that tea was a kind of sumac based on the shape of the leaves. Nieuhof made the point that the tea plants which he had himself observed in China were not trees or herbs, but bushes.

> Wonder wel gelijken de bladen na de bladen van de Smak; en dat de *The* een zoort van Smak is, daar aan heeft niemant te twijffelen; evenwel is hy niet wilt, maar tam, en geen boom of kruid, maar een heefter, dewijl hy zich op veele takjes en rijsjes verfpreit en verdeelt.[7]

> Amazingly the leaves resemble those of sumac, and nobody need doubt that *tea* is but a type of sumac. Moreover, it is not a wild plant, but a domesticated one, neither is it a tree or a herb, but a bush, which flushes copiously into small branches and sprouts.

Although Nieuhof was mistaken about the close relationship of tea to sumac, and he did not have occasion to observe that unpruned tea bushes grew into large trees, he at least treated the tea tree

(Deville, Nicolas. 1706. *Histoire des plantes de l'Europe, et des plus usitées qui viennent d'Afie, d'Afrique & d'Amérique. Où l'on voit leurs Figures, leurs noms, en quel temps elles fleuriffent, & le lieu où elles croiffent. Avec un Abrégé de leurs Qualitez & de leurs Vertus fpecifiques. Divifée en deux Tomes, & rangée suivant l'ordre du Pinax de Gafpard Bauhin.* Lyon: chez Nicolas Deville, Tome I, p. 209).

7 Nieuhof (1665, Vol. II, *Algemeene Befchryving van 't Ryk Sina*, blz. 122).

FIGURE 6.3 *Gezigt op de haven en de baai van Nagasaki*, a bird's eye view of Desima in the bay of Nagasaki and the surrounding landscape (von Siebold 1832)

as a single species, although this one tree yielded various types of tea.

The Dutch physician and botanist Willem ten Rhijne, a native of Deventer, was hired by the Dutch East India Company in 1673, and between the summer of 1674 and the autumn of 1676 he stayed on the man-made island of Desima at Nagasaki. This 1½ hectare arc-shaped island had been constructed at great cost between 1634 and 1636 to provide a place to confine and control the Portuguese presence in Japan. After the exclusion of the Portuguese in 1639, this expensively built artificial island remained vacant for two years, and then became the Dutch East India Company stronghold in Japan from 1641, when the Dutch *factorij* and *comptoir* at Hirado were dismantled. This island would remain the Dutch base of operations in Japan until 1859, and it is here where Willem ten Rhijne conducted the first botanical study of tea.

Twice ten Rhijne partook in the annual procession from Desima to Edo, once with *opperhoofd* Martinus Caesar, once with the *opperhoofd* Johannes Camphuys. He provided the first Western accounts of Japanese acupuncture and moxibustion, and ten Rhijne was one of the Western scholars to report that ambergris is a secretion of the sperm whale. The latter report was met with some incredulity. On the 23rd of June 1690, Herbert de Jager (1634–1694), a scholarly protégé of Nicolaes Witsen, wrote a letter from Batavia to Hendrick van Buijtenhem, who was then serving as *opperhoofd* at Desima, a post to which he was appointed for four terms between 1684 and 1693.

> ik bidde zijn E.E., dat eens naukeurich believe te wernemen naar de Ambre de gris, hoedanigh dezelve ald^r gecolligeerd werd, en of het zelv' ook een etten van een gezwel aan de walwissche zij' zoodanich als men aan de H^r ten Rhijne wijs gemaakt is, 't welk mij gansch niet waarschijnlijk dunkt.[8]

8 Peter Francis Kornicki. 1993. 'European Japanology at the

FIGURE 6.4
Jacobus Breyne (1637–1697)

> I beseech His Noble Excellency please once precisely to ascertain with regard to ambergris how this is collected there and whether this is really obtained from the pus of a swelling on a whale, as they have led Mr. ten Rhijne to believe, which strikes me as altogether improbable.

Yet ten Rhijne was by no means the first Westerner to understand that ambergris came from sperm whales. In the context of the western Indian Ocean, Marco Polo had centuries earlier already reported that:

> Ilz ont ambre affez, pour ce que il ont affez balaines en cette mer, et des capdoils qui font moult grans poiffons[9]

end of the seventeenth century', *Bulletin of the School of Oriental and African Studies*, LVI (3): 502–524.

9 Burgerbibliothek Bern, Sammlung Bongarsiana Codices, Codex 125: Marco Polo, Jean de Mandeville, Pordenone, Pergament I + 287 Bl., 32.5 × 23.5 cm, 1401–1450, f. 90^{v}.

> They have enough ambergris because they have enough whales in this sea and oil heads, which are very large fish

Rather, Herbert de Jager's incredulity is merely an instantiation of a motif that repeats itself throughout history as well as in the present, namely that there are those who are in the know with regard to a certain matter or a particular field of knowledge and those who do not know. Yet the voices of the latter group are often just as loud, and sometimes they are in the majority and even tend to outshout the knowledgeable few.

Upon returning to Batavia in 1677, where he remained until his death in 1700, Willem ten Rhijne wrote an essay on tea which he dispatched to one of the prominent regents of the United Provinces, Hieronymus van Beverningh of Gouda, who at the time was serving in Nijmegen as the local emissary of the States General in The Hague. This specimen of tea and Willem ten Rhijne's text were sent onward to Jacob Breyne in Dantzig. The Dutch botanist Jacob Breyne had studied at Leiden and had returned to Dantzig to run the family business upon his father's death in 1655. Today Dantzig on the Baltic is called Gdańsk in Polish, and in German the newer spelling *Danzig* has replaced the historical orthography *Dantzig*, but during Breyne's lifetime the city was still a German *Stadtrepublik* under Polish and Lithuanian suzerainty.

Willem ten Rhijne's treatise, entitled *De Frutice Thee* 'On the tea bush', was published in Dantzig in 1678 as an appendix to one of the two botanical compendia which Breyne published. The botanist Willem ten Rhijne pointed out that Japanese tea and the Chinese tea from Amoy derived from one and the same plant, and that even in Japan different grades of tea derived from this same tea plant, ranging from the finely prepared tea drunk by the Japanese aristocracy to the coarser tea drunk by commoners. He also described the anatomy of the tea plant and corroborated the observations on the salubrious effects of tea made by Piso and Tulp. He recorded the Amoy Chinese and Japanese names for tea as *Theè* and *T'chia*. He discussed the harvest of tea and mentioned the tea gardens at *Oufi* or Uji 宇治 near Miyako 都 (i.e. Kyōto 京都).[10]

Jacobus Breyne's own botanical compendium of exotic plants, published in 1678 in Dantzig consequently contained the first ever published depiction of a tea plant in his 52nd chapter, which was entitled *THE SINENSIUM, SIVE TSIA JAPONENSIBUS*, roughly 'the *thé* of the Chinese, known as *tsia* to the Japanese'.[11] Breyne's illustration of a tea plant was based on the specimen sent from Japan and the sketch provided by Willem ten Rhijne. Breyne's inferences regarding the flowers of the tea plant, he writes, were based on two tea flowers contained in the specimen which were, however, no

10 Wilhelm ten Rhijne. 1677. *Wilhelmi ten Rhyne Medici, Botanici & Chymici quondam Magni Imperatoris Japoniæ, nunc verò Medicinæ & Anatomiæ Professoris in Batavia Emporio Indiæ Orientalis celeberrimo Excerpta ex observationibus suis Japonicis Physicis &c. de Fructice Thee. Cui accedit Fasciculus Rariorum Plantarum ab eodem D.D. ten Rhyne In Promontorio Bonæ Spei et Saldanhâ Sinu Anno MDCLXXIII. collectarum atq; demum ex Indià Anno MDCLXXVII. in Europam ad Jacobum Breynium, Gedanensem transmiſſarum*, published as pp. vii–xxv (the portion on tea running from pp. vii–xvii) in the Appendix to Jacobus Breyne. 1678. *Jacobi Breynii Gedanenſis Icones Exoticarum aliarumque Minus Cognitarum Plantarum in Centuria Prima deſcriptarum Plantae Exoticae*. Gedani: David-Fridericus Rhetius.

11 Jacobus Breynius. 1678. *Jacobi Breynii Gedanensis Exoticarum Aliarumque minus Cognitarum Plantarum Centuria Prima, cum Figuris Æneis Summo ſtudio elaboratis*. Gedani [i.e. Dantzig, Gdańsk]: typis, ſumptibus & in ædibus autoris, imprimebat David-Fridericus Rhetius [David Friedrich Rhete and Jakob Breyne]. The chapter on tea runs from pp. 111–115, with the depiction of a tea plant appearing on p. 112. The exclusive copyright of the book was accorded solely to the author and guaranteed by the states of Holland and West Friesland, who threatened to enforce this copyright with the confiscation of pirated copies and the imposition of the then exorbitant fine of three hundred guilders for any infringement. In the Fraktur letter type commonly used in the Hanseatic city in which the book was printed, the *Privilegie* in front of the book reads sternly: De Staten van Hollandt ende Weſtvrieslandt doente weeten 'The states of Holland and West Friesland hereby proclaim ...', and so forth.

FIGURE 6.5
Jacobus Breyne's illustration of a tea plant based on the sketch and the actual tea plant specimen sent from Japan by Willem ten Rhijne (Breyne 1678: 112)

longer quite in a perfect state by the time that they had arrived in Dantzig. Breyne evidently adopted the spelling *tsia* in Latin script for the Japanese word for tea directly from the physician Willem Piso, whose writings Breyne had read and who was the first to use this Roman orthography in 1658.[12]

Breyne's decision to opt for Piso's spelling *tsia* to represent Japanese *cha* 茶 (ちや) may have been reinforced by the imaginative but egregious orthography *Thia*, which in 1669 occurred alongside *Chaa* in the writings of Arnoldus Montanus, a pseudonym for Arnold van den Berg. This Dutch Reformed Protestant preacher and landlubber wrote second-hand popular digests based on original accounts in the colonial literature. The work of this tyro was nonetheless read by Breyne. Montanus apparently thought that he could make the Japanese word *cha* look more related to the Hokkien word *thee* by devising an intermediate orthography of his own.

> Byfonderlijk is by *de Japanders* in groote achting een feeker heet water toebereid van een pulver uit een kruid genaemt *Chaa*, of *Thia*; de *Thee* der *Chinefers*.[13]

> Of particular interest is a certain hot beverage, held in high esteem by the Japanese, that is prepared from the powder of a herb called *Chaa*, or *Thia*; the *Thee* of the Chinese.

Montanus' spelling *Thia* was a nonce fluke. However, a century and a half later, the spelling *tsia* used by Willem Piso and Jacobus Breyne would inspire the English word *tsiology*, coined in 1826 for the science or knowledge of tea.

12 The earlier sources which Breyne had consulted and mentioned by name include Giovanni Pietro Maffei, Matteo Ricci, Nicolas Trigault, Gaspard Bauhin, Pierre du Jarric, Nicolaes Tulp, Adam Olearius, Jacob de Bondt, Willem Piso, Johan Nieuhof, Erasmus Franciscus, Arnoldus Montanus and Athanasius Kircher.

13 Arnoldus Montanus. 1669. *Gedenkwaerdige Gesantschappen der Oost-Indifche Maetfchappy in't Vereenigde Nederland, aen de Kaisaren van Japan: Vervaetende Wonderlijke voorvallen op de Togt der Nederlandfche Gefanten.* Amsterdam: Jacob Meurs (p. 5).

From October 1682 to November 1683 and again from October 1685 to November 1686, the German physician from Kassel, Andreas Cleyer, served as *opperhoofd* in Desima, accompanied by his gardener George Meister. Both of these men wrote about their experiences with tea.[14] Previously, as head surgeon at Batavia, Cleyer had been responsible for the internal supply of medicines for the Dutch East India Company. Cleyer also ran two pharmacies and two herb gardens in Batavia and travelled back and forth to Japan both times with his loyal gardener.[15] In one of Cleyer's letters, written in the year 1685, his intention to take tea trees out of Japan is already palpable.[16]

His faithful gardener would later describe the Japanese as **ein fürchtsames und mißträuliches Volk, weil sie niemanden weiter vertrauen, als ihre Augen sehen können** 'a fearful and mistrusting people, who do not trust anybody further than their eyes can see'.[17] Whether or not this description was, at the time, a fair one, Cleyer and Meister decidedly vindicated the purportedly suspicious attitude of the Japanese when they returned to Java in 1687, for they took numerous live tea plants with them in direct violation of the ban that had been imposed by the governor of Nagasaki on the export of live plants from Japan.

Meister planted most of the tea trees for Cleyer in the herb garden in Batavia, but at the end of the year Meister wished to return home. Later one of the tea plants planted by Meister was witnessed at Batavia by François Valentyn in 1694 in the garden of the governor's palace of governor general Johannes Camphuys (*obtinebat* 1684–1695), who had himself previously served three terms as *opperhoofd* at Desima between 1671 and 1676.[18] The youthful tea tree which Valentyn saw, as well as the reports that he had heard about cultivated tea bushes from China, led him to believe that tea was the size of a redcurrant bush *Ribes rubrum*.

> De Thee-bloem zelfs is maar een heefter, zoo ik die zelf gezien hebbe in den Thuyn van zyn Edelheid *Camphuys*, ... daar zy ontrent als een Aalbeftenboomken van groote was. Ook vallen zy in Tsjina doorgaans maar 4 a 5 voeten hoog.[19]

14 Andreas Cleyer. 1686. *Miscellanea Curiosa sive Ephemeridum Medico-Physica Germanicarum Academiæ Naturæ Curiosorum Decuriæ II. Annus Quartus, Anni* MDCLXXXV. *continens Celeberrimorum Virorum, tùm Medicorum, tùm sive aliorum Eruditorum in Germaniâ & extra Eam Observationes Medicas, Physicas, Chymicas, nec non Mathematicas.* Norimbergæ [i.e. Nürnberg] Wolfgang Mauritius Endter; George Meister. 1692. Der Orientalisch-Indianische Kunst- und Lust-Gärtner, Das ist: Eine aufrichtige Beschreibung Derer meisten Indianischen, als auf Java Minor, Malacca und Jappon, wachsenden Gewürtz- Frucht- und Blumen-Bäume, wie auch anderer rarer Blumen, Kräuter- und Stauden-Gewächse, sampt ihren Saamen, nebst umbständigen Bericht deroselben Indianischen Nahmen, so wohl ihrer in der Medicin als Oeconomie und gemeinem Leben mit sich führendem Gebrauch und Nutzen; Wie auch Noch andere denckwürdige Anmerckungen, was bey des Autoris zweymahliger Reise nach Jappan, von Java Major, oder Batavia, längst derer Cüsten Sina, Siam, und rückwerts über Malacca, daselbsten gesehen und fleissig observiret worden; Auch Vermittelst unterschiedlicher schöner ins Kupffer gebrachter Indianischer Figuren, von Bäumen, Gewächsen, Kräutern, Blumen und Nationen entworffen und fürgestellet. Dresden: In Verlegung des Autoris.

15 Wolfgang Michael. 2007. 'Medicine and allied sciences in the cultural exchange between Japan and Europe in the 17th century', pp. 285–302 in Hans Dieter Ölschleger, ed., *Theories and Methods in Japanese Studies: Current State and Future Developments*. Göttingen: Vandenhoeck & Ruprecht.

16 A Latin translation of the passage about tea from Cleyer's original 1685 letter appeared the following year as 'Observatio IV. Dn. Andreæ Cleyeri, de Herba Thee, aliisque' in Cleyer (1686: 7).

17 Meister (1692: 197).

18 A detail city map provided by Cohen Stuart shows the former location of the garden of Johannes Camphuys, where tea once grew in Batavia, in relation to the situation as it obtained in 1924. Those seeking the spot may attempt to relate this 1924 situation map to the present situation in Jakarta (Combertus Pieter Cohen Stuart. 1924a. 'Het begin der theecultuur op Java', blz. 19–39 in Combertus Pieter Cohen Stuart, red., *Gedenkboek der Nederlandsch Indische theecultuur, 1824–1924 uitgegeven door het proefstation voor thee bij gelegenheid van het Theecongres met Tentoonstelling Bandoeng 1924*. Weltevreden: G. Kolff & Co., tussen blz. 20 en 21).

19 Valentyn (1726, *Derde Boek*, blz. 14).

> The tea plant itself is but a bush, as I have seen myself in the garden of His Nobility Camphuys … where it was about as big as a redcurrant tree in size. In China too they tend to be just four or five feet tall.

As Meister embarked in Batavia to return to Holland and thence to Dresden, Cleyer urged him in a letter, dated the 30th of November 1687, to Acht auff die Thee-Bäumgen und die anderen Gewächse 'keep an eye on the little tea trees and the other plants'. Many of the plants were destined for Holland, but, in keeping with his instructions, Meister planted sixteen tea trees as well as allerhand frembde Bäumgen Blumen und Kräuter samt ihrer Indianischen Erde und Wurtzeln 'all sorts of foreign shrubs, flowers and herbs along with their Indian soil and roots', which he had potted in large bamboo internodes, and later transplanted with his own hands from Batavia to the Dutch East India Company garden at the Cape of Good Hope in 1688.[20] After João Rodrigues' 1620 *Arte Breve da Lingoa Iapoa*, Meister was the next to provide an approximately accurate and incomplete sampling of the Japanese kana writing system.[21]

The knowledge accumulated at Desima by ten Rhijne, Cleyer and Meister would inform the work of the German physician Engelbert Kæmpfer, who succeeded Cleyer at Desima. At Batavia, Kæmpfer embarked for Japan in May 1690, and he remained in Japan for two years, visiting Edo. Kæmpfer returned to Batavia in 1692 and to Amsterdam in 1695. After taking a doctorate in medicine at Leiden, he returned to his home town of Lemgo in Westphalia, where he lived until his death in 1716. In his five-volume opus on Japan, which appeared in 1712, Kæmpfer devoted a section to the history of Japanese tea, including the Japanese lore about Bodhidharma or *Daruma*.

Kæmpfer discussed the characteristics and anatomy of the tea plant at great length in a section entitled:

> Tſja. *Thea frutex folio Ceraſi, flore Roſæ ſylvesſtris, fructu unicocco, bicocco, & ut plurimùm tricocco*

> Tsja. *The tea bush with leaves of a cherry tree, flowers of the wild rose and single-lobed, two-lobed and in most cases three-lobed fruit*

Kæmpfer touched upon the Japanese tea ceremony. His work included a botanical drawing of the tea plant and illustrations of Japanese tea implements. He referred to tea as

> *Théa*, Japonibus *Tſjaa*, Sinenſibus *Thèh* dicta[22]

> *Théa*, known as *Tsjaa* to the Japanese and called *Thèh* in Chinese

Kæmpfer treated the tea plant known in both China and Japan as a single plant species.

All scholarly work on tea was written in the knowledge that there was just a single species of tea tree from which both Chinese and Japanese tea was made. Yet time and again the conjecture would suggest itself to the minds of uninformed tea drinkers in England, upon observing the difference between green tea and Bohea tea, that these two types of tea might derive from different plants. To assuage any such popular doubt, James Cunningham reported from the island of Chusan in 1702:

> The 3 ſorts of Tea commonly carry'd to *England* are all from the ſame Plant, only the Seaſon of the year, and the Soil makes the difference. The *Bohe* (or *Voüi*, ſo call'd of ſome Mountains in the Province of *Fokien*, where it is chiefly made) is the very firſt bud gather'd, in the beginning of *March*, and dry'd in the ſhade. The *Bing* Tea is the ſecond growth in *April*: and *Singlo* the laſt

20 Meiſter (1692: 226, 227).

21 Meiſter (1692, plate facing p. 36).

22 Engelbert Kæmpfer. 1712. *Amœnitatum Exoticarum politico-physico-medicarum Facsiculi V, quibus continentur Variæ Relationes, Observationes & Descriptines Rerum Persicarum & Ulterioris Asiæ*. Lemgoviæ: Typis & Impenſis Henrichi Wilhelmi Meyeri (Fasciculus III, pp. 505–631).

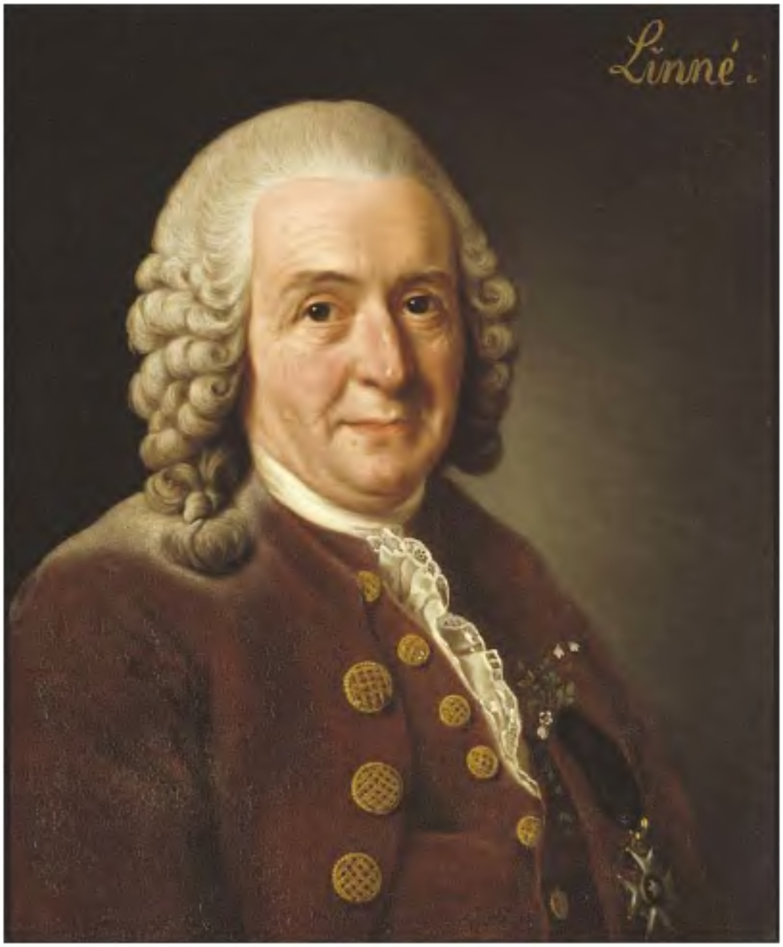


FIGURE 6.6
Carl Linnæus or Carl von Linné as depicted in 1775 by Alexander Roslin (1718–1793), oil on canvas, 56×46 cm, kept at the National Museum collection in Gripsholms slott

in *May* and *June*, both dry'd a little in *Tatches* or Pans over the Fire. The Tea Shrub being an evergreen, is in Flower from *October* to *January*, and the Seed is ripe in *September* and *October* following, ſo that one may gather both Flowers and Seed at the ſame time; but for one freſh and full Seed, there are a hundred nought.[23]

The Swede Carl Linnæus came to Holland in 1735 to defend a dissertation at the University of Harderwijk. During the following three years which he spent in the United Provinces, he frequented the University of Leiden and its botanical garden. After returning to Uppsala, Linnæus published his *Species Plantarum* in 1753, in which he gave tea the scientific name *Thea sinensis*.[24] One of the many sources upon which Linnæus drew was the work of Engelbert Kæmpfer.

23 James Cunningham. 1702–1703. 'Part of two Letters to the Publiſher from Mr James Cunningham, F.R.S. and Phyſician to the Engliſh at Chuſan in China, giving an account of his Voyage thither, of the Iſland of Chuſan, of the ſeveral ſorts of Tea, of the Fiſhing, Agriculture of the Chineſe, &c. with ſeveral Obſervations not hitherto taken notice of', *Philosophical Transactions, Giving ſome Account of the Preſent Vndertakings, Studies and Labours of the Ingenious in many Conſiderable Parts of the World*, XXIII (280): 1201–1209.

24 Carolus Linnæus. 1753. *Species Plantarum, exhibentes Plantas rite cognitas ad Genera Relatas, cum Differentiis Specificis, Nominibus Trivialibus, Synonymis Selectis, Locis Natalibus, secundum Systema Sexuale digestas* (two volumes). Holmiæ [Stockholm]: Laurentius Salvius (Vol. I, p. 515).

At this time, most of Uppsala's professors were educated in Leiden, and Linnæus, though he had taken his doctorate at Harderwijk, had also spent much time at the university in Leiden. Amongst the work produced in Leiden that Linnæus consulted were François Valentyn's volumes on the East Indies and the Far East. These hefty tomes, published just eight months before Valentyn's death, contained numerous descriptions of new species and meticulous drawings of Pacific and Indian Ocean molluscs and Indonesian plants, many of which were drawn with photographic precision. They also famously contained much information on tea, which was one of Linnæus' botanical obsessions. Usually Valentyn's grand compilation accurately reproduced information contained in earlier Dutch colonial sources.

> De bladen der Thee (die, voor zoo verre de langwerpige aangaat, zeer veel na Wilge-bladen gelyken, hoewel de Thee-bladen zich breeder vertoonen) zyn langwerpig, en rondom aan de kanten eenigzings met tandekens bezet …
>
> Dit boomken nu heeft een witte bloefem, die eenigzins na den geelen trekt. Zy bloeyen in Auguftus, waar op dan de zaadbollekens volgen, die zomtyds een zomtyds meer zaden uitleveren. Men zaeid ze wel op akkers, en zelf ook wel tuffchen andere veldvrugten in.[25]

> The leaves of the tea plant (which, as for the longish ones at least, very closely resemble willow leaves, although tea leaves are in fact broader) are oblong in shape and show a dentate serration all along their edges …
>
> This little tree has white blossoms, which tend somewhat to the yellow. They bloom in August, followed by the orb-shaped seed pods, which hold from one to several seeds. They are sown on fields, and also sown between other plants.

However, sometimes Valentyn's own interpretations or his wording tended to be potentially misleading. At one point, the following passages in Valentyn's section on tea came to Linnæus' attention and began to influence his thinking.

> De witte of groene Thee geeft men voor, dat aan groote boomen valt; dog de Boey-Thee (zoo als de Tsjineezen die noemen) aan kleene boomkens, onze Arbrenyns niet ongelyk. Zy komt alleen in TSJINA (en daar wel beft in Nanking) Japan, en Siam voort, zonder dat ik weet, dat zy elders groeit, maar wy zullen nu den Lezer een netter bericht van de Thee geven.
>
> Over dit gewafch hebben dezen en genen, maar juift niet zoo onderfcheiden, als 't wel behoord, gefchreven.
>
> Om dit ftuk zoo kort en klaar, als het mogelyk, is voor te ftellen, moet men weten, dat'er verfcheide Hoofd-foorten van Thee zyn, die we'er elk hare minder foorten, daar onder behoorende, hebben …
>
> Zommige meinen, dat de deugd der Thee in de meerder of minder grootheid der bladen beftaat, en dat verfcheide foorten van Thee aan een en den zelven boom groeyen, dat de onderfte bladen de grootfte en de groffte, dierhalven ook de minfte in deugd en prys zyn; dat ook de bladen aan wat fynder hout daar aan volgen, en dus ook van meer deugd en prys zyn; dog dat dan daar na nog al beter en weerdiger voortkomen, hoewel, na hun gedagten, aan de uyterfte en fynfte takjens de befte en dierfte Thee groeyen zou; dog dit alles is volflagen mis, en die zoo van de Thee redenkavelen, zyn 't fpoor byfter; alzoo het onderfcheid van de Hoofdfoorten der Thee (die men eerft kennen moet, zal men ook kennis van haar minder foorten, die al weer verfchillen, krygen) daar niet in beftaat.
>
> Voor af moet men dan weten, dat alle de Hoofdfoorten ook byzondere foorten van Theeboomen zyn, die zeer gemakkelyk van de andere zyn te onderfcheiden; en gelyk deze boomen nu weer bladen, die zeer veel van den anderen verfchillen, uitleveren, alzoo maken die ook de

25 Valentyn (1726, *Derde Boek*, blz. 14–15).

> byzondere Onder-foorten van deze byzondere Hoofdfoort; dog die byzondere bladen maken geenzins, gelyk zommige qualyk meinen, 't onderfcheid der Hoofdfoorten uit.[26]
>
> It is held that white or green tea grows on large trees, whereas the Bohea tea (as the Chinese call it) grows on small trees, not unlike our dwarf apple trees or *arbres-nains*. This tree only occurs in CHINA (and best of all in the vicinity of Nanking), Japan and Siam, whilst I am unaware that it grows elsewhere, but we shall now give our reader a more precise report on tea.
>
> It so happens that various writers have written about this plant, but not at all in as discerning a fashion as they should have.
>
> To keep this section as short and as lucid as conceivably possible, one must be aware that there are various principal kinds of tea, which in turn are subdivided into their respective sub-varieties …
>
> Some maintain that the quality of tea is measured in terms of how big or small the leaves are, and that the different kinds of tree all grow on one and the same tree, that the lower leaves are the biggest and coarsest, and therefore also of the least quality and value, and that the leaves on the smaller branches are of higher quality and value, and, according to them, there are moreover better and finer leaves yet, and the best and dearest tea grows on the uppermost and finest twigs; yet all of this is deeply mistaken, and those who prattle about tea in such a way, simply have no idea, for it is not therein that the distinction lies between the main kinds of tea (which one must understand first before one can gain any knowledge of their respective sub-varieties).
>
> First of all, one must know that the main kinds constitute distinct species of tea tree, which can readily be distinguished one from the other; and just as these trees produce leaves that differ markedly from each other, so too do the leaves differ between particular sub-varieties of a particular main sort; yet the special leaves are not what determines the distinction between the principal types of tea, as some are given wrongly to opine.

The harsh words directed at those who might have the temerity to think that there was just one single species of tea must have raised qualms in Linnæus' mind. Valentyn stated plainly that there were different types of tea *die ook ieder aan een byzonderen boom groeyen* 'each of which grows on its own particular tree', and he is the first to make this claim. Yet at the University in Leiden, this and a number of other mistaken opinions of the Dutch Reformed Protestant minister from Dordrecht were, notwithstanding his travels in Asia, accorded no credence by botanists familiar with the first-hand literature.

In 1756, in his *Essay on Tea*, Jonas Hanway briefly described the various types of tea then available from China in an introductory passage that reflects the writings of Valentyn. Then Hanway echoed Valentyn's conviction in a way that threw down the gauntlet for any scholar of tea.

> The fhrub and leaf of green tea are fo much like thofe of bohea, that it requires the fkill of a botanift to diftinguifh them.[27]

Picking up the gauntlet three years later, the botanist John Hill sought corroboration for this view in the morphology of his own tea specimens from China. In 1759, he wrote that his Bohea tea specimen had smaller darker leaves and flowers of six petals, whereas the specimen yielding green tea had longer paler leaves and flowers of nine petals.[28]

John Hill and Linnæus never met, but they wrote to each other and exchanged books. Hill

26 Valentyn (1726, *Derde Boek*, blz. 14–15).

27 Hanway (1756: 5).

28 John Hill. 1759. *Exotic Botany Illustrated, in Thirty-Five Figures of Curious and Elegant Plants: Explaining the Sexual System and Tending to give fome New Lights into the Vegetable Philosophy*. London: Printed at the Expence of the Author (pp. 21–22).

wrote to Linnæus in unctuous tones and helped to popularise Linnæus' work in England, although Hill's early writings had been strongly critical of Linnæus. Decades later, Hill's zeal in championing the work of the Swedish scholar at Uppsala was rewarded with a Swedish knighthood, conferred by king Gustav III in April 1774.[29] Meanwhile, the great Linnæus was misled by Valentyn, Hanway and finally by Hill, and in the second edition of his *Species Plantarum*, which appeared in 1762, Linnæus divided tea into two different species, distinguishing *Thea bohea* and *Thea viridis*.[30] Linnæus incorporated as a received truth Hill's observation that the flowers of the *bohea* species had six petals, whereas those of *viridis* had nine.

In keeping with the underlying binary distinction made in Valentyn's discussion of the various kinds of tea, Linnæus wrote that one species, *Thea bohea*, yielded black tea, whereas the other species, which he labelled *Thea viridis*, produced green tea. Linnæus was therefore not only misled about tea by Valentyn and Hanway and, most finally and immediately, by Hill, but in so doing Linnæus deviated from all previous botanical descriptions and first-hand accounts of tea. Except for Valentyn, Hanway and Hill, all descriptions had hitherto spoken of just a single species of tea and had explained the various types of tea as resulting from differences in the mode of preparation, time of picking and grade.

At this time, Linnæus had himself never seen a live tea plant. Several attempts to send Linnæus a tea seedling had failed. The Swedish naturalist Pehr Osbeck managed to fetch a tea plant in Asia for Linnæus and bring it as far as the Cape of Good Hope, at which point a gust of wind blew the plant overboard. The Swedish counsellor Lagerström later brought two plants from China which, when they flowered in Uppsala, turned out to be gardenias. Linnæus finally received living tea plants, which Carl Gustaf Ekeberg had planted in a pot himself before sailing from China and then managed to get safely to Sweden on the 3rd of October 1763, but these plants sadly soon died in the brisk Scandinavian air.[31] In his portable philosophical dictionary, published the following year in London, Voltaire would quip sarcastically 'Nous allons chercher à la Chine … une petite herbe pour infufer dans l'eau, comme fi nous n'avions point de fimples dans nos climats'.[32]

When Linnæus' student Petrus Tillæus defended his dissertation on tea in Uppsala on the 7th of December 1765, Tillæus echoed his master's teachings regarding the two distinct species of tea.

> Non nifi unicam Theæ dari fpeciem communiter creditum fuit, unde omnia ad potum conficiendum defumerentur folia; in Speciebus vero plantatum D:ni Præfidis, duæ funt receptæ fpecies, *Theam* puta *Boheam* & *viridem*, fibi invicem adeo fimiles, ut pro varietatibus tantum crederentur, eò quod Th. *Bohea* ovalia, Th. *viridis* autem oblongiora haberet folia, nifi major in flore confpecta fuerit differentia, petalis in Th. *Bohea* sex, in Th. *viridi* novem.[33]

> It is commonly believed that there is but one species of tea, from which all drink the leaves which are made into a beverage. As demonstrated by the venerable dissertation supervisor, two distinct species must be recognised, the

29 George Rousseau. 2012. *The Notorious Sir John Hill, the Man Destroyed by Ambition in an Era of Celebrity*. Bethlehem, Pennsylvania: Lehigh University Press.

30 Carolus Linnæus. 1762, 1763. *Species Plantarum, exhibentes Plantas rite cognitas ad Genera Relatas, cum Differentiis Specificis, Nominibus Trivialibus, Synonymis Selectis, Locis Natalibus, secundum Systema Sexuale digestas* (two volumes). Holmiæ [Stockholm]: Laurentius Salvius (Vol. I, pp. 734–735).

31 F.J. Brand. 1781. *Select Dissertations from the Amœnitates Academicæ* (two volumes). London: G. Robinson (Vol. I, pp. 67–69).

32 Voltaire [François-Marie Arouet]. 1764. *Dictionnaire philosophique, portatif*. Londres (p. 87).

33 *Potus Theae, quem Differtatione Medica Venia Nobiliff. Fac. Med. in Reg. Acad. Upf. Præfide Viro Nobiliffimo D:no Doct. Carolo von Linné … d. 7. Decembr. 1765 / publico submittit examini h.a.m.f. Petrus C. Tillæus, Veftmannus.* Upfaliæ [Upsalla] (p. 2).

> *Bohea tea* and the *green tea*. They are verily similar to each other so that they would believe this much with regard to the varieties, inasmuch as *Bohea* tea has oval leaves, whilst *green* tea has oblong leaves, and even more so can the differences be observed in the flower, where *Bohea* tea has six petals and *green* tea has nine.

Tillæus also consoled his teacher by speaking encouragingly about the prospects of planting tea in Europe, suggesting that tea would one day become as widespread as the lilac *Syringa vulgaris* and that Europeans would no longer be dependent on procuring the plant from China. The following year, Linnæus' Russian student Matheus Aphonin reiterated the idea that the tea plant might one day be as common in Europe as the lilac.[34] The idea that tea might be cultivated one day in Europe had been expressed in print by Willem Piso in 1658, who argued that both Holland and Japan had snowy winters and that success would just be a matter of transporting and germinating the tea seeds. Evidently, it was Piso's idea that had fired the misplaced hopes of Linnæus a century later.

It is remarkable that Linnæus could have allowed himself to be influenced by a certain type of vain mindfulness that was anxious to avoid incurring the opprobrium voiced by the compiler François Valentyn and the insinuation made by Hanway and then ultimately misled by John Hill, since a plethora of authoritative Dutch medical and botanical sources from the East had been quite explicit about the single species identity of the plant from which Japanese green tea as well as both green and fermented Chinese tea were manufactured. The English botanist John Ellis maintained a copious correspondence with Linnæus, and Ellis had sent him tea seeds sealed in wax. These seeds never germinated, and neither did the tea seeds which Ellis sent to the British provinces in North America in the hope of establishing tea in the Americas.

On the 19th of August 1768, John Ellis wrote to Linnæus that Mr. Thomas Fitzhugh, who had served for many years in China as a factor of the British East India Company, could vouch for the fact that 'green and bohea' came from 'one and the same plant', and that Ellis had surmised Linnæus 'must have been imposed on by Dr. Hill'.[35] Ellis managed to grow tea in England, however, and in the 1760s others too brought tea plants from Canton to England as ornamentals, whilst tea plants grown from Japanese seed were also available in England from Holland. Knowledgeable persons and reliable botanical accounts were not heeded by everyone, however.

After Linnæus had split tea into two distinct species, William Aiton at the Royal Botanic Garden at Kew went a step further and in 1789 split the species *Thea bohea* into a narrow leaved variety *Thea bohea stricta* and a broad leaved variety *Thea bohea laxa*.[36] A year later, in 1790, the Portuguese Jesuit and botanist João de Loureiro proposed dividing tea into three species, *Thea cochinchinensis, Thea cantoniensis* and *Thea oleosa*, based on his thirty-five years of study in Cochin China and his many years at Macau and Canton.[37] Yet at this time, there were those in England who had already spotted

34 *Dissertatio Academia demonstrans Usum Historiæ Naturalis in Vita Communi, quam Consent. Experient. Facult. Med. in illustri Academia Upsaliensi Præside Viro Nobilissimo atque Experientissimo D:no Doct. Carolo von Linné … publice examinandam submittit Auctor et Respondens Matheus Aphonin, Nobil. Moscov. Rossus. in Audit. Car. Maj D. XVII. Maji. Anni MDCCLXVI.* Upsaliæ [Uppsala].

35 Sir James Edward Smith, ed. 1821. *A Selection of the Correspondence of Linnæus, and other Naturalists from the Original Manuscripts* (two volumes). London: Longman, Hurst, Rees, Orme and Brown (Vol. I, pp. 232, *passim*).

36 William Aiton. 1789. *Hortus Kewensis; or, a Catalogue of the Plants cultivated in the Royal Botanic Garden at Kew* (three volumes). London: George Nicol (Vol. II, pp. 230–231).

37 Joannis de Loureiro. 1790. *Flora Cochinchinensis: Sistens Plantas in Regno Cochinchina nascentes. Quibus accedunt aliæ observatæ in Sinensi Imperio, Africa Orientali, Indiæque locis variis. Omnes Dispositæ Decundum Systema Sexuale Linnæanum* (two volumes). Ulyssipone [Lisbon]: Typis, et Expensis Academicis (Vol. I, pp. 338–340).

FIGURE 6.7
John Coakley Lettsom (1744–1815), engraving by Thomas Holloway in 1792

that there were no anatomical differences between tea plants grown from Chinese seed and those grown from Japanese seed.

In 1772, John Coakley Lettsom, a native of the smaller of the two Caribbean islands named after the Dutch privateer Joost van Dijk in what had then become the British Virgin Islands, declared:

> There is only one fpecies of this plant; the difference of green and bohea Tea depending upon the nature of the foil, the culture, and manner of drying the leaves.[38]

Lettsom's observation is all the more notable because he drew so heavily on the 1756 tea essay by his countryman Hanway, who had held that green tea and Bohea tea came from two distinct species. Lettsom's study on the tea tree, published in 1772 in London, was an English translation of his doctoral dissertation in medicine which he had defended in Latin at Leiden University in 1769. Botanists in Leiden knew that there was but a single species of tea tree, and in Leiden the merits and demerits of Valentyn's compilatory work from older Dutch original sources could also be capably assessed. Lettsom was also an avid reader of Bontekoe and Kæmpfer, to whom he made numerous references in his writings.

In 1808, the English botanist John Sims likewise undertook, albeit more gingerly, to defy Linnæus' double take on tea:

38 John Coakley Lettsom. 1772. *The Natural History of the Tea-Tree, with Observations on the Medical Qualities of Tea and the Effects of Tea-Drinking*. London: Edward and Charles Dilly (p. 7).

FIGURE 6.8 *Thea sinensis* from Japan as depicted by Philipp von Siebold (1823)

> There is no reafon whatever to believe that the varieties of this celebrated plant, fold by our Nurferymen, under the names of *THEA viridis* and *THEA Bohea*, are really diftinct fpecies. Indeed, it is now afcertained that all the different forts of tea, prepared in China, are the produce of the fame fpecies. [Moreover] … THEA and CAMELLIA cannot be kept apart, but must be united into one genus; and our obfervations go to confirm this idea, but we are unwilling to change the generic name until all the allied plants fhall have been more accurately examined.[39]

Following suit in 1818, another English botanist, Robert Sweet, grouped the various species of *Thea* under the heading of the genus *Camellia*.[40] This genus had been named by Linnæus in his 1753 edition of *Species Plantarum* after the Moravian Jesuit Georg Joseph Kamel (1661–1706), who had conducted botanical studies in the Philippines, most notably in the Chinese gardens in Manila from 1688. Soon afterwards, in 1824, the Swiss botanist Augustin Pyrame de Candolle grouped the genus *Thea* within the order Camellieæ.[41]

After his return to Holland from Japan and the Dutch East Indies, Philipp Franz von Siebold rejected earlier taxonomical deliberations on the basis of the number of flower petals, the shape and size of the tree, and the shape of the leaves as being based on invalid criteria, and he resolutely restored Linnæus' original species name: '*Thea sinensis*, Linn.'

> Dieser bereits von Linné gegebene Name mag, auch wenn die Theepflanze nicht ursprünglich in China zu Hause ist, die zweckmässigste Benennung für den Theestrauch seyn, da der Thee als Handelsprodukt von Schina zuerst bekannt, und bis jetzt bloss von da aus den Europäern zugeführt worden ist … Die *Thea viridis* fällt weg, da man grünen und braunen Thee von einer und derselben Pflanze gewinnt.[42]

> This name which had already been given by Linnæus is probably the most appropriate name for the tea shrub even though the tea plant is not indigenous to China, since tea as a commodity first came to be known from China and is still supplied to Europeans from there … *Thea viridis* is now obsolete, since green and brown tea are derived from one and the same plant.

Philipp von Siebold did not accept the unification of the genera *Thea* and *Camellia* into a single genus, however.

Only in 1905 did the International Code of Botanical Nomenclature officially adopt the proposal made by Sims in 1808 and merge the genera *Thea* and *Camellia*, thereby deciding on the label *Camellia sinensis* as the official scientific name for the species. The issue continued to provoke controversy, but, because of the subsequent outbreak of the Second World War, no new botanical code was produced in sequel to the 6th International Botanical Congress, which was held in 1935 in Amsterdam, where English replaced French as the official language of the congress.[43] From this time, the arbitrary and historically not wholly defensible decision persisted that the genus name would be *Camellia*.

When a committee appointed by the British Association for the Advancement of Science 'to consider of the rules by which the Nomenclature of Zoology may be established on a uniform and permanent basis' adopted a resolution on the 27th

39 John Sims. 1808. *Curtis's Botanical Magazine; or Flower-Garden Difplayed*, xxv, № 998.

40 Robert Sweet. 1818. *Hortus Suburbanus Londinensis; or, a Catalogue of Plants cultivated in the Neighbourhood of London; arranged according to the Linnean System*. London: James Ridgway. (p. 157).

41 Augustin Pyrame de Candolle. 1824. *Prodromus Systematis Naturalis Regni Vegetalis, Pars Prima*. Paris: Treutel & Würtz (pp. 529–530).

42 von Siebold (1832: 10–12).

43 Thomas Archibald Sprague. 1935. *Synopsis of Proposals Concerning Nomenclature Submitted to the Sixth International Botanical Congress, Amsterdam, 1935*. Cambridge: Cambridge University Press (pp. 15–16).

of June 1842 that the legal scientific name of an animal species would henceforth be the first one which had appeared in print in a scientific source, the zoologists explicitly stated that they were merely emulating the law of priority that at the time had already been established by nearly a century of practice in the field of botany.[44] On the basis, of this principle, the name *Thea sinensis*, given by Linnæus in 1753, at a time when he still correctly believed that tea was but a single species, should rightfully be the scientific designation of tea. In fact, botanists at the Royal Botanic Gardens at Kew at the time pointed out: 'If strict priority is adhered to, *Thea* is the correct name for the genus'.[45] However, Joseph Robert Sealy stuck by the arbitrary decision made in Amsterdam regarding the name *Camellia* in his 1958 revision of the genus.[46]

In subsequent practice, *Thea* has therefore been abandoned as a genus designation, and tea is classified as a species of the genus *Camellia* within the family Theaceae, rather than as a species of the genus *Thea* within the family Camellieæ. In addition to the genus *Camellia*, the tea family Theaceae encompasses somewhere between ten and twenty genera, and only future phylogenetic studies will determine just how many genera botanists will finally settle on. The tea family includes a rich array of tree species, ranging from the *cilāune* चिलाउने or Himalayan needlewood tree *Schima wallichii* to the endemic Formosan tree *Wǔwēi shānchá* 武威山茶 'Wǔwēi mountain Camellia' *Pyrenaria buisanensis*,[47] recently rediscovered in the wild in Táiwān.

The tea family Theaceae is classed under the grand order of dicotyledonous flowering plants called Ericales, along with rhododendrons, Brazil nuts, persimmons, blueberries, azaleas and numerous other plant species. For tea itself, a number of other names have been proposed in the botanical literature, such as *Camellia theifera, Thea cantonensis, Camellia thea, Camellia assamica, Thea cochinchinensis* and so forth. The scientific name for tea with the best pedigree and obvious legitimacy on the basis of anteriority is no doubt *Thea sinensis*. Yet the species name which has now stuck in the botanical literature is *Camellia sinensis*.[48]

The English Take to Tea

As we saw in the previous chapter, the first published attestation of a word for tea in English appeared in 1598 in the English translation of van Linschoten's Dutch *Itinerario*, where the word appeared in the Japanese form *cha* 茶, written as 'chaa', in reference to Japanese powdered green tea. The Japanese form is preserved as 'chaw' in a letter written from the Japanese port city of Hirado in 1615 by Richard Wickham, the factor for the English East India Company, and as late as 1671 the term *cha* still occurs in an English glossary. However, English would adopt not the Japanese word for tea, but the Hokkien word *tê* 茶 [te ˧], which the English language borrowed directly from the Dutch *thee*.

44 British Association for the Advancement of Science. 1843. *Report of the Twelfth Meeting of the British Association for the Advancement of Science held at Manchester in June 1842*. London: John Murray (pp. 105–121).

45 Royal Botanic Gardens, Kew. 1935. *Bulletin of Miscellaneous Information*, No. 2, pp. 66–67.

46 Joseph Robert Sealy. 1958. *A Revision of the Genus Camellia*. London: The Royal Horticultural Society (p. 14).

47 Mong-Huai Su, Sheng-Zehn Yang and Chang-Fu Hsieh. 2004. 'The identity of *Camellia buisanensis* Sasaki (Theaceae)', *Taiwania*, 49 (3): 201–208.

48 Some secondary literature cites spurious botanical names that were never actually proposed as species names. In such instances, a bit of Latin prose has usually been taken out of context and construed to represent a binomial species designation. The species name *Thea japonense* [sic] has, for example, been imputed to Kæmpfer because he entitled one of the sections of his treatise on tea 'a history of Japanese tea', i.e. Theæ Japonenſis hiſtoria. Some secondary sources have likewise misconstrued *Thea frutex*, a phrase used by various scholars writing in Latin, as a species name when the phrase has simply been lifted out of contexts in which 'the tea bush' is being discussed.

In 1637, a fleet of four English ships under the command of captain John Weddell forced their way past the Portuguese at Macau, sailed up the Pearl River and established contact with merchants at Canton directly. They were at first held back by the Portuguese in the mouth of the Pearl River and later by the blandishments of Chinese civil servants in junks urging them to turn back. As the English halted at the narrow strait in the Pearl River delta known as the Bocca Tigris or *Boca do Tigre* (Cantonese *fu*^{2}*mun*^{4} 虎門 [fuː ˥ muːn ˩] 'tiger gate') on the 10th of August 1637 on their undaunted way upriver towards Canton, Peter Mundy, the factor of the English East India Company on board recorded that the 'people there gave us a certaine Drinke called Chaa, which is only water with a kind of herbe boyled in itt. It must bee Drancke warme and is accompted wholesome'.[49] Mundy no doubt heard the Cantonese form *caa*^{4} 茶 [tsʰaː ˩], and he had as well heard the Portuguese form *chá*, which sounded roughly the same but which originally derived from the Japanese, since initially both Dutch and English seafarers in Asian waters were compelled to use Portuguese as the *lingua franca*.

Some of the Englishmen were detained because Weddell had insisted on sailing upriver to Canton without the requisite permission. In response, Weddell and his men raided villages, seized junks, stole livestock, set fire to a village and blew up the Anunghoy fort (Cantonese *aa*^{3}*noeng*^{4}*haai*^{4} 阿娘鞋 [aː ˧ nœːŋ ˩ haːi ˩]). The English initially blamed the Portuguese for collusion with the Chinese. In reality, the Chinese were defending their borders without Portuguese prompting, and Weddell was only able to regain the English captives through the diplomatic mediation of the Portuguese Jesuit Bartolomeu de Reboredo, after Weddell had signed a formal admission of guilt and submission to the laws of China.[50]

Weddell's mission was a failure, and Peter Mundy could not have foreseen the importance that that 'certaine Drinke called Chaa', to which he had been treated in the Bocca Tigris, or 'the Bogue' as the English would come to call it, would ultimately assume in the history of his home country. Yet it would be years before the idea would occur to the English to ship tea to England. By the time that the English East India Company placed their first modest order of 100 lb. of tea in 1664, tea had already become the new rage in London, and it would be five years later, in 1669, before the English East India Company first managed to import tea to England. The English set up their first factory at Amoy in 1678, but were already compelled to leave in 1681.

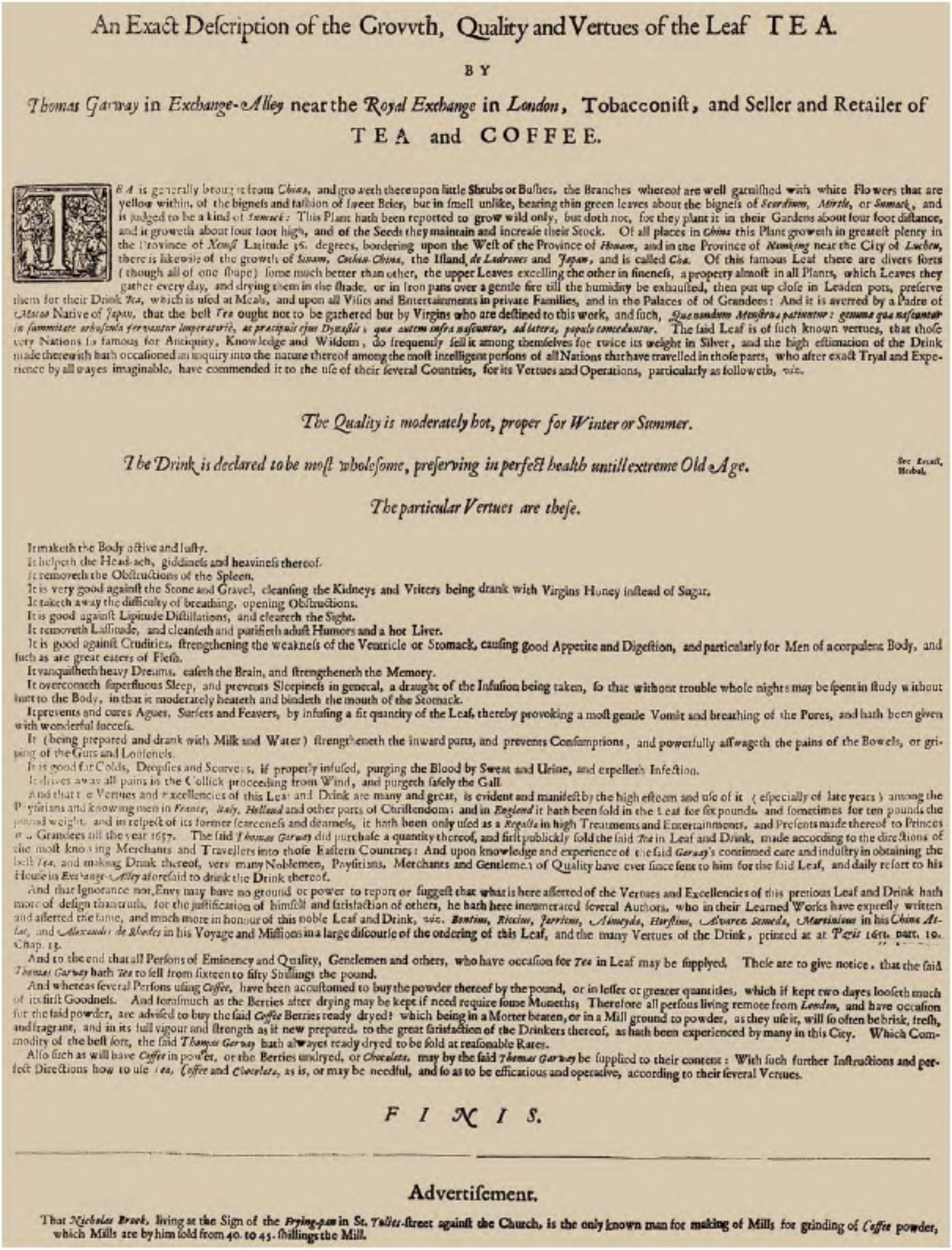
In 1689, William Heath sailed the *Defence* to Macau. Because of the incident with Weddell in 1637, the Chinese seized the mast of the ship as a precaution to prevent the English sailing upriver without permission. Heath's crew stole back the mast from the isle of Taipa just south of Macau, but killed one of the Chinese people on the shore in the process. The Chinese retaliated and the *Defence* was compelled to flee, abandoning some of the English crewmen on Taipa, about whose fate we can only guess.[51] By the time that the British East India Company established its own trading post at Canton in 1711, and finally began to ship tea on a regular basis directly from Canton in 1717, the domestic consumption of tea in England had already ballooned.

Demand for tea by that time was already high and growing sharply. Yet the English only began to ship tea to Europe regularly themselves, either obtained in Batavia or from Dutch middlemen

49 Sir Richard Carnac Temple, ed. 1919. *The Travels of Peter Mundy, in Europe and Asia, 1608–1667*. London: The Hakluyt Society (Vol. III. *Travels in England, India, China, etc. 1634–1638*, Part I. *Travels in England, Western India, Achin, Macao and the Canton River*, 1634–1637, p. 191).

50 Austin Coates. 2009. *Macao and the British, 1637–1842: Prelude to Hong Kong*. Hong Kong: Hong Kong University Press (pp. 1–27).

51 Coates (1988: 35–36).



An Exact Deſcription of the Growth, Quality and Vertues of the Leaf TEA.

BY

Thomas Garway in *Exchange-Alley* near the *Royal Exchange* in *London*, Tobacconiſt, and Seller and Retailer of TEA and COFFEE.

TEA is generally brought from *China*, and groweth there upon little Shrubs or Buſhes, the Branches whereof are well garniſhed with white Flowers that are yellow within, of the bigneſs and faſhion of ſweet Brier, but in ſmell unlike, bearing thin green leaves about the bigneſs of *Scordium*, *Mirtle*, or *Sumack*, and is judged to be a kind of *Sumack*: This Plant hath been reported to grow wild only, but doth not, for they plant it in their Gardens about four foot diſtance, and it groweth about four foot high, and of the Seeds they maintain and increaſe their Stock. Of all places in *China* this Plant groweth in greateſt plenty in the Province of *Xemſi* Latitude 36. degrees, bordering upon the Weſt of the Province of *Honam*, and in the Province of *Namking* near the City of *Luchen*, there is likewiſe of the growth of *Sinam*, *Cochin-China*, the Iſland *de Ladrones* and *Japan*, and is called *Cha*. Of this famous Leaf there are divers ſorts (though all of one ſhape) ſome much better than other, the upper Leaves excelling the other in fineneſs, a property almoſt in all Plants, which Leaves they gather every day, and drying them in the ſhade, or in Iron pans over a gentle fire till the humidity be exhauſted, then put up cloſe in Leaden pots, preſerve them for their Drink *Tea*, which is uſed at Meals, and upon all Viſits and Entertainments in private Families, and in the Palaces of of Grandees: And it is averred by a Padre of *Macao* Native of *Japan*, that the beſt *Tea* ought not to be gathered but by Virgins who are deſtined to this work, and ſuch, *Quae nondum Menſtrua patiuntur: gemmae quae naſcuntur in ſummitate arbuſculae ſervantur Imperatori, ac praecipuis ejus Dynaſtis; quae autem infra naſcuntur, ad latera, populo conceduntur*. The ſaid Leaf is of ſuch known vertues, that thoſe very Nations ſo famous for Antiquity, Knowledge and Wiſdom, do frequently ſell it among themſelves for twice its weight in Silver, and the high eſtimation of the Drink made therewith hath occaſioned an inquiry into the nature thereof among the moſt intelligent perſons of all Nations that have travelled in thoſe parts, who after exact Tryal and Experience by all wayes imaginable, have commended it to the uſe of their ſeveral Countries, for its Vertues and Operations, particularly as followeth, *viz.*

The Quality is moderately hot, proper for Winter or Summer.

The Drink is declared to be moſt wholeſome, preſerving in perfect health untill extreme Old Age. See Lovell, Herbal.

The particular Vertues are theſe.

It maketh the Body active and luſty.
It helpeth the Head-ach, giddineſs and heavineſs thereof.
It removeth the Obſtructions of the Spleen.
It is very good againſt the Stone and Gravel, cleanſing the Kidneys and Vriters being drank with Virgins Huney inſtead of Sugar.
It taketh away the difficulty of breathing, opening Obſtructions.
It is good againſt Lipitude Diſtillations, and cleareth the Sight.
It removeth Laſſitude, and cleanſeth and purifieth aduſt Humors and a hot Liver.
It is good againſt Crudities, ſtrengthening the weakneſs of the Ventricle or Stomack, cauſing good Appetite and Digeſtion, and particularly for Men of a corpulent Body, and ſuch as are great eaters of Fleſh.
It vanquiſheth heavy Dreams, eaſeth the Brain, and ſtrengtheneth the Memory.
It overcometh ſuperfluous Sleep, and prevents Sleepineſs in general, a draught of the Infuſion being taken, ſo that without trouble whole nights may be ſpent in ſtudy without hurt to the Body, in that it moderately heateth and bindeth the mouth of the Stomack.
It prevents and cures Agues, Surfets and Feavers, by infuſing a fit quantity of the Leaf, thereby provoking a moſt gentle Vomit and breathing of the Pores, and hath been given with wonderful ſucceſs.
It (being prepared and drank with Milk and Water) ſtrengtheneth the inward parts, and prevents Conſumptions, and powerfully aſſwageth the pains of the Bowels, or griping of the Guts and Looſeneſs.
It is good for Colds, Dropſies and Scurveys, if properly infuſed, purging the Blood by Sweat and Urine, and expelleth Infection.
It drives away all pains in the Collick proceeding from Wind, and purgeth ſafely the Gall.

And that the Vertues and Excellencies of this Leaf and Drink are many and great, is evident and manifeſt by the high eſteem and uſe of it (eſpecially of late years) among the Phyſitians and knowing men in *France*, *Italy*, *Holland* and other parts of Chriſtendom: and in *England* it hath been ſold in the Leaf for ſix pounds, and ſometimes for ten pounds the pound weight, and in reſpect of its former ſcarceneſs and dearneſs, it hath been only uſed as a *Regalia* in high Treatments and Entertainments, and Preſents made thereof to Princes and Grandees till the year 1657. The ſaid *Thomas Garway* did purchaſe a quantity thereof, and firſt publickly ſold the ſaid *Tea* in Leaf and Drink, made according to the directions of the moſt knowing Merchants and Travellers into thoſe Eaſtern Countries: And upon knowledge and experience of the ſaid *Garway*'s continued care and induſtry in obtaining the beſt *Tea*, and making Drink thereof, very many Noblemen, Phyſitians, Merchants and Gentlemen of Quality have ever ſince ſent to him for the ſaid Leaf, and daily reſort to his Houſe in *Exchange-Alley* aforeſaid to drink the Drink thereof.

And that Ignorance nor Envy may have no ground or power to report or ſuggeſt that what is here aſſerted of the Vertues and Excellencies of this precious Leaf and Drink hath more of deſign than truth, for the juſtification of himſelf and ſatisfaction of others, he hath here innumerated ſeveral Authors, who in their Learned Works have expreſly written and aſſerted the ſame, and much more in honour of this noble Leaf and Drink, *viz.* *Bontius, Riccius, Jarricus, Almeyda, Horſtius, Alvarez Semedo, Martinius* in his *China Atlas*, and *Alexander de Rhodes* in his Voyage and Miſſions in a large diſcourſe of the ordering of this Leaf, and the many Vertues of the Drink, printed at at *Paris* 1653. part. 10. Chap. 13.

And to the end that all Perſons of Eminency and Quality, Gentlemen and others, who have occaſion for *Tea* in Leaf may be ſupplyed. Theſe are to give notice, that the ſaid *Thomas Garway* hath *Tea* to ſell from ſixteen to fifty Shillings the pound.

And whereas ſeveral Perſons uſing *Coffee*, have been accuſtomed to buy the powder thereof by the pound, or in leſſer or greater quantities, which if kept two dayes looſeth much of its firſt Goodneſs. And foraſmuch as the Berries after drying may be kept if need require ſome Moneths; Therefore all perſons living remote from *London*, and have occaſion for the ſaid powder, are adviſed to buy the ſaid *Coffee* Berries ready dryed? which being in a Morter beaten, or in a Mill ground to powder, as they uſe it, will ſo often be briſk, freſh, and fragrant, and in its full vigour and ſtrength as it new prepared, to the great ſatiſfaction of the Drinkers thereof, as hath been experienced by many in this City. Which Commodity of the beſt ſort, the ſaid *Thomas Garway* hath alwayes ready dryed to be ſold at reaſonable Rates.

Alſo ſuch as will have *Coffee* in powder, or the Berries undryed, or *Chocolate*, may by the ſaid *Thomas Garway* be ſupplied to their content: With ſuch further Inſtructions and perfect Directions how to uſe *Tea*, *Coffee* and *Chocolate*, as is, or may be needful, and ſo as to be efficacious and operative, according to their ſeveral Vertues.

F I N I S.

Advertiſement.

That *Nicholas Brook*, living at the Sign of the *Frying-pan* in St. *Tulies*-ſtreet againſt the Church, is the only known man for making of Mills for grinding of *Coffee* powder, which Mills are by him ſold from 40. to 45. ſhillings the Mill.

FIGURE 6.9 Thomas Garway introduced the English spelling *tea* in his 1660 broadside by dropping the aitch from the Latinate Dutch term *thea*, whilst the word in English at this time was still pronounced like colloquial Dutch *thee* 'tea', so as to rhyme with English *say* or *day*.

elsewhere in Asia, from 1692.[52] It is logical therefore that both the news about tea as well as the commodity itself came to the British Isles first through the Dutch literary sources and directly from their trade with Dutch merchants. The first recorded instance of the Dutch or Hokkien word for tea in English can be found in the 30th of September 1658 issue of the *Mercurius Politicus*, in the last of a list of four 'Advertifements'.

> That Excellent, and by all Phyfitians approved, *China* Drink, called by the *Chineans*, *Tcha*, by other Nations *Tay alias Tee*, is fold at the *Sultanefs-head*, a *Cophee-houfe* in *Sweetings* Rents by the Royal Exchange, *London*.[53]

This advertisement placed in the *Mercurius Politicus* by Thomas Garway contained the allegedly 'Chinean' form *tcha* as well as the Hokkien word for tea. The written form *tcha* was not Chinese, but represented one of the contemporaneous Dutch renderings of the Japanese word for tea. The Hokkien word was spelt by Garway both as *tee* and as *tay*. All three orthographies are attested in subsequent English writings of the period for some time.

The advertisement in the *Mercurius Politicus* appears to be the direct source of the eleventh of the '36 Merry Mad Queries' published by an anonymous satirist in London on the 13th of June 1659. In this query, he ridicules the new commodities chocolate, coffee and tea, whereby the spelling *tay* of the original advertisement is either inadvertently misprinted or mischievously misspelt as *ta*.

> Whether the learned Colledge of Phyfitians, if they be not too full of practife, fhould not do a good act to meet and examine, Whether Coffee, Sherbet, that came from *Turky*, Chocolate much ufed by the Jews, Brofa by the Mufcovites, *Ta* and *Tee* and fuch other new fangled drinks will agree with the Conftitutions of our *Englifh* Bodies.[54]

In contemporaneous Dutch writings, the spelling *tee* was also still used alongside the more erudite medical spelling *thee*, but both Garway as well as his satirist were compelled to opt for the variant without the aitch so as not to elicit from their fellow Englishmen a pronunciation with an interdental fricative [θ], like the first sound in the word *think*. The spelling *tay* apparently derived directly from the 1653 English translation of the writings of Alexandre de Rhodes. Thomas Garway first introduced London society to tea from his shop near the London exchange in 1657.

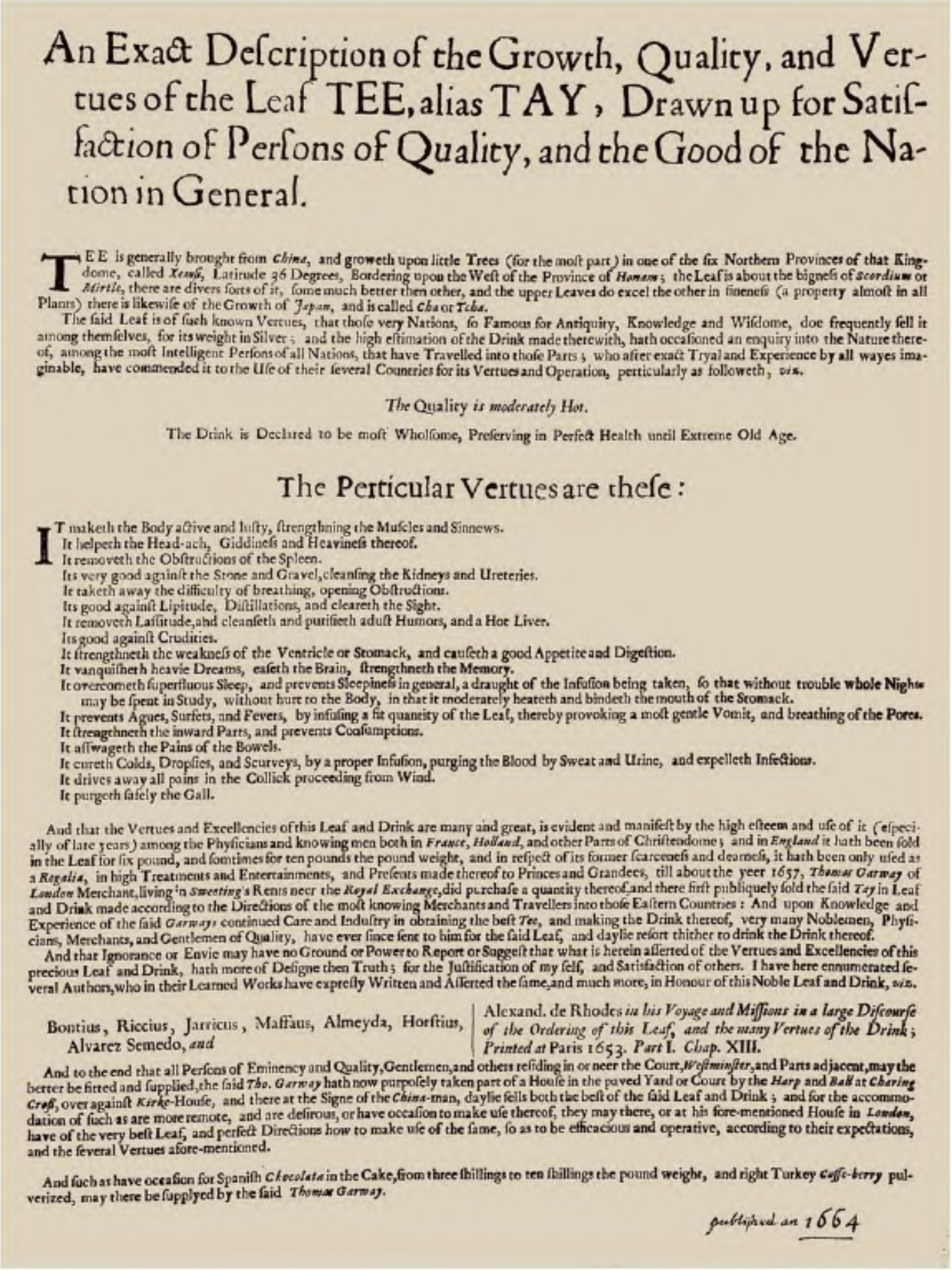
Garway introduced an entirely new variant spelling in the 1660 version of his broadsheet entitled *An Exact Defcription of the Grovvth, Quality, and Vertues of the Leaf* TEA.[55] This is the earliest surviving recorded instance of the English word *tea* in its modern spelling. Garway's broadsheet was published more than once, and the Bodleian Library retains a copy dated to 1664, which appears to 'correct' the 1660 spelling *tea* and instead once again proposes the spellings *tee* and *tay*, as contained in the original 1658 advertisement. The 1664 version of the broadsheet is entitled *An Exact Defcription of the Growth, Quality, and Vertues of the Leaf* TEE, *alias* TAY, *Drawn up for Satiffaction of Perfons of Quality, and the Good of the Nation in General*. Both the 1660 and the 1664 versions of the broadsheet drew their information directly from contemporary Dutch sources and from the 1653 English translation of Alexandre de Rhodes.

52 Kirti Narayan Chaudhuri. 1978. *The Trading World of Asia and the English East India Company, 1660–1760*. Cambridge: Cambridge University Press.

53 *Mercurius Politicus, comprifing the fum of Forein Intelligence, with the Affairs now on foot in the Three Nations of England, Scotland, and Ireland for the Information of the People*, Numb. 435 (From Thurfday Septemb. 23. to Thurfday Septemb. 30. 1658), p. 887.

54 Anonymous. 1659. *Endlesse Qveries: or An End to Queries, Laid down in 36 Merry Mad Queries for the Peoples Information*. London: Printed 1659 June 13 (pp. 4–5).

55 Thomas Garway. 1660. *An Exact Defcription of the Growth, Quality, and Vertues of the Leaf* TEA. London: Thomas Garway in Exchange-Alley near the Royal Exchange, in London, Tobacconift, and Seller and Retailer of Tea and Coffee.



An Exact Description of the Growth, Quality, and Vertues of the Leaf TEE, alias TAY, Drawn up for Satisfaction of Persons of Quality, and the Good of the Nation in General.

TEE is generally brought from *China*, and groweth upon little Trees (for the most part) in one of the six Northern Provinces of that Kingdome, called *Xensi*, Latitude 36 Degrees, Bordering upon the West of the Province of *Honam*; the Leaf is about the bigness of *Scordium* or *Mirtle*, there are divers sorts of it, some much better then other, and the upper Leaves do excel the other in fineness (a property almost in all Plants) there is likewise of the Growth of *Japan*, and is called *Cha* or *Tcha*.

The said Leaf is of such known Vertues, that those very Nations, so Famous for Antiquity, Knowledge and Wisdome, doe frequently sell it among themselves, for its weight in Silver; and the high estimation of the Drink made therewith, hath occasioned an enquiry into the Nature thereof, among the most Intelligent Persons of all Nations, that have Travelled into those Parts; who after exact Tryal and Experience by all wayes imaginable, have commended it to the Use of their several Countries for its Vertues and Operation, perticularly as followeth, *viz.*

The Quality *is moderately Hot.*

The Drink is Declared to be most Wholsome, Preserving in Perfect Health until Extreme Old Age.

The Perticular Vertues are these:

IT maketh the Body active and lusty, strengthning the Muscles and Sinnews.
It helpeth the Head-ach, Giddiness and Heaviness thereof.
It removeth the Obstructions of the Spleen.
Its very good against the Stone and Gravel, cleansing the Kidneys and Ureteries.
It taketh away the difficulty of breathing, opening Obstructions.
Its good against Lipitude, Distillations, and cleareth the Sight.
It removeth Lassitude, and cleanseth and purifieth adust Humors, and a Hot Liver.
Its good against Crudities.
It strengthneth the weakness of the Ventricle or Stomack, and causeth a good Appetite and Digestion.
It vanquisheth heavie Dreams, easeth the Brain, strengthneth the Memory.
It overcometh superfluous Sleep, and prevents Sleepiness in general, a draught of the Infusion being taken, so that without trouble whole Nights may be spent in Study, without hurt to the Body, in that it moderately heateth and bindeth the mouth of the Stomack.
It prevents Agues, Surfets, and Fevers, by infusing a fit quantity of the Leaf, thereby provoking a most gentle Vomit, and breathing of the Pores.
It streagthneth the inward Parts, and prevents Consumptions.
It asswageth the Pains of the Bowels.
It cureth Colds, Dropsies, and Scurveys, by a proper Infusion, purging the Blood by Sweat and Urine, and expelleth Infections.
It drives away all pains in the Collick proceeding from Wind.
It purgeth safely the Gall.

And that the Vertues and Excellencies of this Leaf and Drink are many and great, is evident and manifest by the high esteem and use of it (especially of late years) among the Physicians and knowing men both in *France*, *Holland*, and other Parts of Christendome; and in *England* it hath been sold in the Leaf for six pound, and somtimes for ten pounds the pound weight, and in respect of its former scarceness and dearness, it hath been only used as a *Regalia*, in high Treatments and Entertainments, and Presents made thereof to Princes and Grandees, till about the yeer 1657, *Thomas Garway* of *London* Merchant, living in *Sweeting*'s Rents neer the *Royal Exchange*, did purchase a quantity thereof, and there first publiquely sold the said *Tay* in Leaf and Drink made according to the Directions of the most knowing Merchants and Travellers into those Eastern Countries: And upon Knowledge and Experience of the said *Garways* continued Care and Industry in obtaining the best *Tee*, and making the Drink thereof, very many Noblemen, Physicians, Merchants, and Gentlemen of Quality, have ever since sent to him for the said Leaf, and daylie resort thither to drink the Drink thereof.

And that Ignorance or Envie may have no Ground or Power to Report or Suggest that what is herein asserted of the Vertues and Excellencies of this precious Leaf and Drink, hath more of Designe then Truth; for the Justification of my self, and Satisfaction of others. I have here ennumerated several Authors, who in their Learned Works have expresly Written and Asserted the same, and much more, in Honour of this Noble Leaf and Drink, *viz.*

Bontius, Riccius, Jarricus, Maffaus, Almeyda, Horstius, Alvarez Semedo, *and* | Alexand. de Rhodes *in his Voyage and Missions in a large Discourse of the Ordering of this Leaf, and the many Vertues of the Drink*; *Printed at* Paris 1653. *Part* I. *Chap.* XIII.

And to the end that all Persons of Eminency and Quality, Gentlemen, and others residing in or neer the Court, *Westminster*, and Parts adjacent, may the better be fitted and supplied, the said *Tho. Garway* hath now purposely taken part of a House in the paved Yard or Court by the *Harp* and *Ball* at *Charing Cross*, over against *Kirke*-House, and there at the Signe of the *China*-man, daylie sells both the best of the said Leaf and Drink; and for the accommodation of such as are more remote, and are desirous, or have occasion to make use thereof, they may there, or at his fore-mentioned House in *London*, have of the very best Leaf, and perfect Directions how to make use of the same, so as to be efficacious and operative, according to their expectations, and the several Vertues afore-mentioned.

And such as have occasion for Spanish *Chocolata* in the Cake, from three shillings to ten shillings the pound weight, and right Turkey *Coffe-berry* pulverized, may there be supplyed by the said *Thomas Garway*.

published an 1664

FIGURE 6.10 In his 1664 broadside, Garway reverts to the spellings *tee* and *tay*, contained in his original 1658 advertisement. The spelling *tee* was modelled after Dutch *thee* without the aitch, and the spelling *tay* was taken from the English translation of Alexandre de Rhodes, whose work was already listed amongst the Continental sources cited in the 1660 broadsheet and is cited more prominently in this 1664 broadside.

In contradistinction to the original 1658 advertisement in the *Mercurius*, both the 1660 and 1664 broadsheets correctly attribute the form *cha* or *tcha* to the Japanese rather than incorrectly to the 'Chineans'. The occurrence of the spelling *tea* in 1660 was the first step towards the modern English word for tea. This new variant spelling is modified from the Dutch medical term *Thea* for tea, whereby the aitch was omitted because the digraph *th* generally represents an interdental fricative sound in English spelling, as in *thin* or *thirst*. The learned Latinate term *Thea* was widely known amongst the literate from the influential writings of the Amsterdam physician Tulp and other scholarly Dutch sources. The spelling *thea* was also adopted in the records of the English East India Company throughout the second half of the 17th century as well as in the correspondence of scholars. In the letter written by James Tyrrell to John Locke in June 1682, the word is written as *theà*.[56]

When reading Latin texts, the word was perhaps often pronounced as a learned Latinate disyllable, but in spoken English the word for tea in the 17th century was pronounced as best an Englishman could pronounce the Dutch word *thee*, which is what English buyers heard when they procured their tea either from Dutch merchants in Batavia or Surat or from Dutch smugglers along the English coast or on the Channel Islands. Garway had used various spellings for the word for tea, but in the end it was the learned Latinate orthography *thea* which prevailed, from which the letter *h* had been dropped. Since English *tea* was initially pronounced like Dutch *thee*, the English word *tea* rhymed with *yea*. The English pronunciation of *tea* would only begin to change in the middle of the 18th century.[57]

In November 1659 in his *Diurnal*, Thomas Rugge mentioned 'coffee, chocolate and a kind of drink called *tee*, sold in almost every street in 1659'.[58] In his diary entry for the 25th of September 1660, the secretary of the admiralty Samuel Pepys likewise used the spelling *tee*, which reflected the contemporary Dutch orthography *thee* minus the aitch.

> I did send for a Cupp of Tee, (a China drink) of which I had never drank before.[59]

Tea was a novelty in England, but soon it became a craze. For years, the English pronounced their new word *tee* or *tea* like the Dutch word *thee*, as if *tea* rhymed with *say, gay, lay* or *day*, which at the time it did. The early spellings *tey* and *tay* reflected yet other attempts by English writers to give Dutch *thee* a more English spelling.

Not only could the orthography of tea be rendered more English, it was soon discovered that tea itself could also be prepared in ways that were more suited to the hearty English tastes of the period. In 1669 in his book of recipes, Sir Kenelme Digbie recommended 'Tea *with Eggs*' for when a man returns home after work feeling a trifle peckish.

> To near a pint of the infufion, take two yolks of new laid-eggs, and beat them very well with as much fine Sugar as is fufficient for this quantity

56 James Tyrrell. 1976 [1682]. Letter '715. James Tyrrell to Locke, [*c.* 10 June 1682] (645, 750)', pp, 523–525, Vol. 2 in Esmond Samuel de Beer, ed., *The Correspondence of John Locke in Eight Volumes*. Oxford: The Clarendon Press (p. 525).

57 Yule and Burnell (1903); William Harrison Ukers. 1936. *The Romance of Tea: An Outline History of Tea and Tea-Drinking through Sixteen Hundred Years*. New York: Alfred A. Knopf (p. 4).

58 William L. Sachse, ed. 1961. *The Diurnal of Thomas Rugg, 1659–1661*. London: Royal Historical Society (p. 10), also quoted by Richard Lord Braybrooke. 1854. *Memoirs of Samuel Pepys, F.R.S., Secretary to the Admiralty in the Reigns of Charles II. and James II., the Diary Deciphered by the Rev. J. Smith A.M. from the Original Shorthand Ms. in the Pepysian Library* (fourth edition, revised and corrected in four volumes). London: Henry Colburn (Vol. 1, p. 110).

59 This particular fragment of Pepys' original diary entry, written in the system of shorthand known as tachygraphy, introduced by Shelton in 1638, is photographically reproduced by Forrest (1973: 29). The words 'Cupp', 'Tee' and 'China' are written out in full; cf. Braybrooke (1854, Vol. 1, p. 110).

> of Liquor; when they are very well incorporated, pour your Tea upon the Eggs and Sugar, and ftir them well together. So drink it hot. This is when you come home from attending bufinefs abroad, and are very hungry, and yet have not conveniency to eat prefently a competent meal. This prefently difcuffeth and fatisfieth all rawnefs and indigence of the ftomack, flyeth fuddainly over the whole body and into the veins, and ftrengthneth exceedingly, and preferves one a good while from necessity of eating.[60]

As documented in Chapter Seven, some Englishmen, in contradistinction to peoples on the Continent, were at this time already taking chocolate with two eggs thrown in so that their hot chocolate too would likewise make a heartier beverage, more aptly suited to the English palate.

The pronunciation of the English word *tea* only began to change around 1702, and the transition appears to have been complete by 1748. In December 1685, the English philosopher John Locke, then living in exile in Holland, used a play on words—forty-five years after Constantijn Huygens had exploited the very same pun to good effect—in a letter which Locke wrote in Latin to his friend, the Dutch Remonstrant theologian Philippus van Limborch, with whom he often drank fine tea in Amsterdam.

> Negotia quibus scio te hisce diebus impeditum fuisse satis causæ habent cur nec Te nec Team viderim hactenus.[61]

> The business matters which I know have engaged your attention these days are reason enough for having so far seen neither thee nor tea.

Whether writing in Latin or in English, John Locke generally used the spelling *tea* without the learned ornamentation of an *h*.

Precisely this same play on words was exploited once again six years later in a comedy by Thomas Southerne, which premiered in London in late 1691. Gentlemen and ladies at their afternoon tea deliberate on which tea they will select, and the following exchange unfolds between Mr. Friendall, his wife and Mr. Wellvile.

> *Mr. Fr.* Madam, which Tea fhall we have?
> *Mrs. Fr.* Which the Company pleafes, *Mr. Friendall.*
> *Mr. Fr.* The plain *Canton*, the *Nanquin*, the *Bohe*, the *Latheroon*, the *Sunloe*, or which? Ha!
> *Well.* Have you any of the *Non Amo Te*?
> *Mr. Fr.* Faith, No, Sir, there can be but little of it over this Year; but I am promis'd a whole Canifter by a Friend of a confiderable intereft in the Committee.[62]

Of course, the phrase *non amo te* means 'I do not love you' in Latin, and Southerne's jocular play on words only works because the English word *tea* still rhymed with the English pronunciation of Latin *te*.

Even more than half a century after England had definitively adopted the habit of drinking tea, the word *tea* still retained its original Dutch or Hokkien pronunciation. In Alexander Pope's *The Rape of the Lock*, first published in 1712, the word *tea* occurs in the third canto of the poem. The rhyming verse indicates that the English word *tea* was still pronounced like the Dutch word *thee*. In painting a satirical picture of Hampton Court

60 Sir Kenelme Digbie. 1669. *The Closet Of the Eminently Learned Sir Kenelme Digbie K^t. opened: Whereby is Discovered Several ways for making of Metheglin, Sider, Cherry-Wine, &c., together with Excellent Directions for Cookery: as alfo for Preferving, Conferving, Candying, &c., Publifhed by his Son's Confent.* London: Printed by E.C. for H. Brome (p. 155).

61 John Locke. 1976 [1685]. Letter '840. Locke to Philippus van Limborch, 23/31 December [1685] (838, 841)', pp. 763–764, Vol. 2 in Esmond Samuel de Beer, ed., *The Correspondence of John Locke in Eight Volumes.* Oxford: The Clarendon Press (p. 763).

62 Thomas Southerne. 1692. *The Wives Excuse; or Cuckolds Make Themfelves.* London: Samuel Brifco, over againfst Will's Coffee-House (p. 37).

palace, Pope makes reference to queen Anne's habit of holding court over tea.

Clofe by thofe Meads, for ever crown'd with
Flow'rs,
Where *Thames* with Pride furveys his rifing
Tow'rs,
There ftands a Structure of Majeftick Frame,
Which from the neighb'ring *Hampton* takes its
Name,
Here *Britain's* Statefmen oft the Fall foredoom
Of Foreign Tyrants, and of Nymphs at home;
Here thou, great *Anna*! whom three Realms
obey,
Doft fometimes Counfel take—and fometimes
Tea.[63]

The word *tea* rhymes with *obey* and crowns the zeugma, the figure of speech with which Pope concludes the opening portion of the third canto. Elsewhere in the poem, *tea* rhymes with *away*.

Soft yielding Minds to Water glide away,
And fip with *Nymphs*, their Elemental Tea.[64]

Notably, in Canto IV, the word *Bohea* too rhymes with *way*. Bohea is mentioned by the lady who has lost her lock of hair and who laments that she ever set eyes upon Hampton Court and now longs for some place where 'none e'er tafte Bohea'.[65] In some other contemporary English sources, the name *Bohea* is written as *Bohe*.

Likewise, in *The Art of Walking the Streets of London*, published in 1716, the word *tea* is used to rhyme with *pay* in a section in which the author, John Gay, describes the common predicament of pressing vesical urgency which all of us experience from time to time in the artificial urban environments which many of us inhabit, under the heading 'Inconveniences that attend thofe who are unacquainted with the Town'.

The thoughtlefs Wits fhall frequent Forfeits
pay,
Who 'gainst the Centry's Box difcharge their
Tea.
Do thou fome Court, or fecret Corner feek,
Nor flush with Shame the paffing Virgin's
Cheek.[66]

With time, a spelling pronunciation of the word *tea* began to take hold, whereby *tea* started to be pronounced as if it rhymed with words with a similar spelling, such as *sea* or *flea*.

In 1748, over three decades after Gay's play, Edward Moore ridiculed the wayward daughter of a man from Eaton near St. Neots in Huntingdonshire in a poem which Moore presented to the lady in question, entitled 'The trial of Sarah Palmer, alias Slim Sall, for privately stealing'.

The pris'ner was at large indicted,
For that by thirft of gain excited,
One day in July laft, at tea,
And in the houfe of Mrs. P.,
From the left breaft of E.M. gent,
With bafe felonious intent ...[67]

The transition from the conservative and learned English pronunciation of *tea*, to rhyme with *say* and *play*, to the modern pronunciation of *tea*, rhyming with *sea* and *plea*, may have begun in Ireland and first been adopted by those who did not bother to retain the original pronunciation.

An indication that an Irish reading pronunciation may have been the source is found in two verses by the Irish poet Nahum Tate, who as early as 1702 was the first to use the word *tea* to rhyme

63 Alexander Pope. 1714. *The Rape of the Lock, an Heroi-Comical Poem. In Five Canto's*. London: Printed for Bernard Lintott, at the Crofs-Keys in Fleetftreet (p. 19, Canto III, ll. 1–8).
64 Pope (1714, p. 4, Canto I, ll. 62–63).
65 Pope (1714, p. 39, Canto IV, l. 156).
66 John Gay. 1716. *Trivia: or, The Art of Walking the Streets of London*. London: Bernard Lintott, at the Cross-Keys between the Temple Gates in Fleet-Street (p. 20).
67 Edward Moore. 1756. *Poems, Fables and Plays*. London: R. and J. Dodsley in Pall-Mall (p. 39).

FIGURE 6.11
The tea doctor Cornelis Bontekoe, alias Cornelis Dekker (1645–1685), in an engraving by Adrianus Halweg

with *sea* and *plea*.[68] Tate was from Dublin, where a *smörgåsbord* of Irish accents could be heard. The Irish word for tea is *tae*, in which the digraph *ae* represents the Irish phoneme /eː/. Today the Irish word *tae* 'tea' still sounds like Dutch *thee* in Ulster, but Irish *tae* in the southern dialects of Munster has a vowel sound close to the [iː] in English *tea*, whilst Irish varieties of the Connacht dialect area show pronunciations intermediate between these two.[69] An Irish twang in the vowel could conceiv-

68 Nahum Tate. 1702. *A Poem upon Tea: with A Difcourse on its Sov'rain Virtues; and Directions in the Use of it for Health. Collected from Treatifes of Eminent Phyficians upon that Subject*. London: Printed for J. Nutt near Stationer's-Hall (pp. 29, 31).

69 Thomas Francis O'Rahilly. 1976. *Irish Dialects Past and Present*. Dublin: Institute for Advanced Studies; Raymond Hickey. 2011. *The Dialects of Irish: Study of a Changing Landscape*. Berlin: Mouton de Gruyter; *New*

ably have aided and abetted the introduction of a reading pronunciation for English *tea*.

Later, the French Huguenot poet Pierre Antoine Motteux, who came to London and became a merchant in imported Chinese and Indian wares, also wrote a poem in praise of tea in 1712. As a Frenchman, Motteux picked up on the new English reading pronunciation of *tea*, which he may have experienced as representing a more authentically English way to say the word, in the sense that it differed from the pronunciation of the word *thé* in his home country. In his poem, the word *tea* rhymed with *sea, see* and *agree*.[70] At this time, the reading pronunciation of *tea* was still new, and it still coexisted with the older and more learned pronunciation.

Yet Another Influential Dutch Tea Doctor

Cornelis Bontekoe, alias Cornelis Dekker (1645–1685) of Alkmaar, studied medicine in Leiden and became a fervent proponent of Cartesian views and a strident opponent of those espousing other views than his own. He practised medicine in The Hague, and he published a *Tractaat* on tea, coffee and chocolate in 1678. Tea had already been popularised in Holland half a century before Bontekoe, in élite circles such as the members of the *Muiderkring*, who had gathered for literary and musical evenings between 1615 and 1645 at the *Muiderslot*, the castle of Pieter Corneliszoon Hooft outside of Amsterdam. One of the members of the *Muiderkring* with fond recollections of those memorable gatherings was Constantijn Huygens (1596–1687). By 1673, the drinking of tea had become a commonplace in Holland and was no longer an exclusive indulgence of a monied and artistically inclined élite.

In a quatrain written on the 31st of December 1673, entitled *Té-dronckaerts* 'tea drunkards', Huygens observed wistfully that the tea rage had seeped down to all strata of society.

In jongen en in Ouden
Is een gemeen gebreck,
Om middelmaet te houden
Zijn s' all' al veel Té geck.[71]

In both the young and the old
There is a common shortcoming
In order to conserve their mediocrity
They are already mostly all tea crazy.

In this time of popularisation, Bontekoe professed that he had been inspired to write his treatise on tea *in 't Duyts*, i.e. in the Dutch language, so that his work, unlike other medical treatises, most of which were written in Latin, could be read by the common man. He also wrote in Dutch out of patriotism and praised the good fortune which had rendered the Dutch privileged access to this commodity.[72] He took his *nom de plume* from a *bonte koe* 'mottled cow' that was depicted on a sign hanging in front of his father's business at the corner of the Bontekoesteeg and the canal Verdronkenoord in Alk-

English-Irish Dictionary ⟨http://www.focloir.ie⟩ [with audio files].

70 Peter Motteux. 1712. *A Poem in Praise of Tea*. London: Printed for J. Tonfon at Shakefpear's Head, over-againft Catherine-ftreet in the Strand (pp. 6, 8, 11, 14, 16).

71 Jacob Adolf Worp, red. 1898. *Constantijn Huygens—Gedichten Deel 8: 1671–1687*. Groningen: J.P. Wolters (blz. 104).

72 '… de liefde, die men heeft voor onfe Natie en 't geluk dat fy geniet boven d'anderen, om dit *Kruyd* overvloediger te ontfangen door de negotie van *Indien*' ["the love that one has for our nation and the good fortune which she enjoys above other nations in receiving this herb in greater abundance through the trade with the East Indies"] (Cornelis Bontekoe. 1678. *Tractaat Van het Excellenfte Kruyd Thee: 't Welk vertoond het regte gebruyk, en de groote kragten van 't felve in Gefondheid, en Siekten: Benevens een Kort Discours op Het Leven, de Siekte, en de Dood: mitsgaders op de Medicijne, en de Medicijns van defe tijd, en fpeciaal van ons Land. Ten dienfte van die gene, die luft hebben, om Langer, Gefonder, en Wijfer te leven, als de meefte menfchen nu in 't gemeen doen.* 's Gravenhage: Pieter Hagen, 9th unnumbered page of the prefatory *Waarfchouwinge*).

maar. His treatise was reprinted the following year and earned him considerable fame as the *theedokter* 'tea doctor'.

In Holland, Bontekoe had also earned a reputation as a quarrelsome and polemic figure and consequently had many detractors, but also some allies. After a short stay in Amsterdam, he left for Hamburg in 1681, where he fell in favour with the ageing Friedrich Wilhelm I, Elector of Brandenburg. He moved to Berlin and was appointed professor at the university in Frankfurt an der Oder. On the 13th of January 1685, Bontekoe was making rounds, visiting patients in the city of Cölln, the whilom sister city of Berlin just across the Spree, but today no more than a neighbourhood in the heart of Berlin. Towards the end of the day, Bontekoe was at the house of the court painter Jacob Vaillant from Rijsel when he was called to visit yet another patient. He left, promising to return forthwith, but fell down the stairs, fractured his skull and died.[73]

In his treatise, Bontekoe warned that tea was no panacea against all ills.

> Ik pretendeer … de *THEE* niets toe te schrijven, … of *THEE* te verheffen tot een *Panacea*, en een univerſelle remedie tegens alle qualen, want dat een andere ſotternye, waar in dat de menſchen vallen …[74]

> I do not claim … to attribute anything to *TEA*, … or to elevate *TEA* to the status of a panacea or universal remedy against all ills, for that too would be nothing more than a common type of folly that people fall for …

Instead, the first half of the treatise is dedicated to dispelling false beliefs about tea propagated by its detractors. He writes that tea does not dry out the body nor render people thinner or more susceptible to tuberculosis. Tea does not weaken the stomach, create gallstones, cause tremors, epilepsy or infertility in either men or women.

Rather, Bontekoe tells us that tea moistens the lips, is good for both the mouth and the throat, hydrates, keeps the teeth and gums clean, calms and stabilises the stomach as well as the intestines, helps prevent haemorrhoids, purifies the blood and stimulates its circulation, reduces fever, alleviates congestion, arrhythmia, dysentery and haemorrhage of the uterus. Finally, tea is especially good for the brain and the nerves, enhances ones mental equilibrium, takes away drowsiness, activates memory and awareness. Bontekoe states:

> … deſe drank is de ware *herſenen drank*, en dit kruyd 't regte *memorie kruyd*.[75]

> … this drink is the true *brain drink*, and this herb is the genuine *memory herb*.

This statement sounds quite modern. Yet he interpreted this insight very much in the spirit of his own time and social context, explaining that tea, in promoting cerebral health, would also help to strengthen the tea drinker's Dutch Reformed Protestant faith. Bontekoe wrote that tea not only engendered piety but also cured gout, podagra, scurvy, helped keep epilepsy in check, improved eyesight and hearing, fortified the chest, liver, kidneys, spleen and bladder, helped assuage coughs and colds, headaches, lethargy, oedema, hepatitis, kidney stones as well as a pale complexion in young daughters.

However, the second edition, which came out a year later, was much improved and far more sophisticated in terms of describing the mental effects of tea on awareness and thought. Like the Zen practitioners in Japan, the change in state of consciousness caused by tea was appreciated by Bontekoe in a spiritual sense. He contrasted the effects of alcohol and tea on consciousness and thinking. Whereas wine and beer …

73 Cornelis Willem Bruinvis. 1892. 'Cornelis Bontekoe, de theedokter', *Elsevier's Geïllustreerd Maandschrift*, 2 (III): 404–416.

74 Bontekoe (1678, 17th unnumbered page of the prefatory *Waarſchouwinge*).

75 Bontekoe (1678: 239).

> … de herſſenen met ſlaap of dronkenſchap bedwelmen, die de memorie verſwakken, de Phantaſie verwerren, en een vuur van paſſien aanſteken. De THEE de ſlaap benemende, beneemt dan ook alle de wolken van de geeſt, maakt hem helder, verſterkt de memorie, en geeft een moderate hitte aan de Phantaſie en de paſſien, ſoo dat een man, die wel THEE gedronken heeft (ſoo niet van elders door andere oorſaken de kragt van de THEE belet word) ſich vinden ſal in een humeur, dat ſeer gepoſeert is, en recht bequaam tot clare en diſtincte gedachten van de waarheyt en een regte devotie, die niets heeft van valſche yver, welke is de rechte ſource van een geblankette Godzaligheyt.[76]

> … stupefy the brain with sleep or drunkenness, which weakens the memory and confuses the imagination and ignites a fire of passions; TEA, whilst alleviating sleepiness, also dispels the clouds in the mind, rendering the mind more lucid, and imparts a moderate heat to the imagination, so that a person who has drunk TEA (unless the effects of the TEA have been diminished by other causes) will find himself in a poised demeanour, and quite capable of thinking clear and distinct thoughts of truth and genuine devotion, which is nothing like sanctimony, but is the true source of polished piety.

Bontekoe had sound advice on keeping tea, for which he prescribed air-tight leaden bottles or jars. At this time, tea was sealed into such receptacles with *theelood* 'tea lead'. Likewise, crates of tea shipped from Asia on board Dutch East Indiamen were lined on the inside with sheets of this material to prevent mildew or mould from forming on the fresh tea leaves on the lengthy journey by sea, which at the time took about half a year. *Theelood* was an alloy of lead, tin and copper, and the term was also applied to an alloy of tin and zinc. Bontekoe counselled as follows on judging the curled dried tea leaves.

> De *Coleur* van de corlen van de THEE moet uyt den *groen-blaauwen* zyn, en de *glans* hebben van een kruyd, dat vers gedroogd is: hoeſe meer na de *rode* coleur nadert, hoe de THEE minder deugt.[77]

> The *colour* of the curled leaves of the TEA should be of a *green-blue* hue, and have the *lustre* of a herb that has been freshly dried. The more the colour tends towards *red*, the less the quality of the TEA.

For the colour of the infusion itself, Bontekoe advised the drinker to judge as follows:

> …ſoo kan een yegelijk weten, offe goed is of niet, uyt de *coleur* die niet *geel* nog *rood*, maar *groen* of *witachtig* weſen moet; uyt de *reuk* die hem *verſch*, *lieflijk* en aangenaam moet in den neus komen; uyt de *ſmaak*, welke *ſterk* en *bitter* ſijn moet.[78]

> … in this way everybody can know whether the tea is good or not, by the *colour* which must be neither *yellow* nor *red*, but *green* or *whitish*; from the *smell*, which should come to the nose as *fresh*, *lovely* and pleasant, and from the *taste*, which should be *strong* and *bitter*.

He recommended the cleanest well water or rain water and stressed that the quality of the water was of decisive importance in determining the taste

76 Cornelis Bontekoe. 1679. *Tractaat Van het Excellenſte Kruyd Thee: 't Welk vertoond het regte gebruyk, en de groote kragten van 't ſelve in Geſondheid, en Siekten: Benevens een Kort Discours op Het Leven, de Siekte, en de Dood: mitsgaders op de Medicijne van deſe tijd. Ten dienſte van die gene, die luſt hebben, om Langer, Geſonder, en Wijſer te leven. Den Tweeden Druk Vermeerdert, en vergroot met byvoeginge van noch twee korte Verhandelingen, I. Van de Coffi; II. Van de Chocolate, Mitsgaders van een Apologie van den Autheur tegens ſijne Laſteraars.* 's Gravenhage: Pieter Hagen (pp. 201–202).

77 Bontekoe (1678: 294).

78 Bontekoe (1678: 295).

of the tea. The water itself should de boiled in an earthenware or pewter pot, not in a copper vessel, which affected the taste adversely. He suggested that Delft blue ceramics offered a good alternative for those who could not afford fine Chinese porcelain. Tea should not be brewed too strong, nor should candy sugar be used to sweeten it. He advised that tea could be drunk all year round, and, though tea did no harm, it was better to drink it in the morning than in the evening.

The amount of tea that is probably safe and salubrious to drink has been discussed in Chapter Five, both in the context of the tea binge of the French Jesuit Alexandre de Rhodes and in terms of the intemperate recommendations made by the German Jesuit Athanasius Kircher. The tea doctor Bontekoe made the following observations:

> Indien alle menſchen een natuur hadden, ſoo vond ik geen ſwarigheit haar te raden, dat ſe 50, of 100, of 200 kopjens agter een ſouden drinken: ik heb er menigmaal ſo veel gedronken op een voor- of namiddach, en niet alleen ik, maar veele perſonen met my, waar van 'er nog niet een geſtorven is, hebben 't ſelfde gedaan. Maar ik ben niet van advijs, dat iemand ſulx behoeft na te volgen: ik allegeer 't maar om te doen ſien door ſoo een grove, en taſtelijke experientie (die confunderen en verſtommen ſal de lasteraars, en vreesachtige menſchen) dat in de THEE niet quaads is, en dat men geen reden heeft, ſich ſoo bevreeſt te houden voor een kopje 10 of 20: ſy is nog *Wijn*, nog *Bier*, die (gelijk men ſegt) in 't hoofd loopt. 'T matig, en nodig, en 't minſte gebruyk bepaal ik in 8 of 10 kopjens tweemaal daags, inſonderheit voor die gene, die 't nog niet gewoon zyn, maar anders is 't deſe *drank*, waar van den *Pater Kircherus* in ſyn Beſchryving van China met waerheit geſegt heeft, dat *dit de enige drank is*
>
> *Qui etſi centies unâ die ſumatur, nunquam nocet.*
> Dat is:
> *Die hoe dikwijls dat ſe op een dach ook genomen wort, noyt iemand ſchade doet.*
>
> in mijn Lichaam is dat altijd tot nog toe waar geweeſt: Veel anderen getuygen 't ſelve, en die gene, die 't contrarie ſeggen, ſpreken of uyt paſſie, of onverſtand, niet onderſcheidende, of 't quuad, 't welk zy gevoelen na 't THEE drinken, van de THEE komd, of van 't geen ſy daar nevens, of te voren, of daar na gebruyckt hebben, of van de quade humeuren, en indiſpoſitien, die in 't Lichaam waren.[79]

If people were so inclined, I would have no difficulty recommending to them that they drink 50 or 100 or 200 cups of tea one after the other. I have drunk that many cups on many an occasion in the morning or in the afternoon, and not just I have done so, but many other people have done so as well, none of whom has died as a result. But I do not advise that anyone must necessarily follow this example, I merely wish to say that it has been experimentally demonstrated in this simple way that tea is not a bad thing (which will confound and silence the slanderers and the trepidatious), and that there is no reason to be afraid of taking 10 or 20 cups of tea. Tea is neither wine nor beer, which (as people say) goes to the head. I put the moderate, requisite and minimal use at 8 or 10 cups twice a day, especially for those who are not yet accustomed to it, for otherwise Father Kircher was right to say, in his description of China, that this beverage is the only drink …

Qui etſi centies unâ die ſumatur, nunquam nocet.
that is:
That does nobody any harm, no matter how many times it is taken in a day.

which in my own body has hitherto proven to be true. Many others can testify to the same, and those who proclaim the contrary speak either out of bias or a lack of understanding, being unable to distinguish whether the bad feeling which they experience after drinking TEA has

79 Bontekoe (1678: 315–317).

FIGURE 6.12
Peter the Great (1672–1725), as depicted by Jean-Marc Nattier (1685–1766), collection of the *usadba Arxángel'skoe*

> anything to do with the TEA or from whatever they ate or drank along with it or beforehand or just afterwards, or from bad humours or indispositions which were already present in their body.

This passage is intended to dispel the alarmist rhetoric of hysterical detractors, such as Simon Paulli, whose misleading claims Bontekoe sought to combat.

Recalling the two modern cases of excessive tea intake discussed in Chapter Five in the section on Athanasius Kircher, it is useful to keep in mind that Dutch tea cups in this period were rather diminutive in size and had no handles but could comfortably be held between the thumb and a finger. The ten to twenty cups which Bontekoe recommended in the morning and again in the afternoon were certainly considerably larger than a thimbleful each, but these early teacups did not yet hold as much tea as would the later English teacups with handles of the Victorian period. Both such diminutive early tea cups as well as the imported Yíxīng 宜興 teapots of red semi-porous clay can be seen

depicted on many a Dutch still life from the 17th century, such as those of Pieter Gerritsz. van Roestraten, as well as on the numerous commissioned Chinese blue and white porcelain depictions of the Dutch table from the same period.

A samovar specifically for the preparation of tea was developed by Jan de Hartog in The Hague and was described by the physician Bontekoe in 1678 as follows:

> Ik moet alleen niet verſwygen ſekere gemakkelijke inventie van een tinne Pot, gemaakt alhier in 's Gravenhage, by Mr. *Jan* de *Hartog*, Mr. Tinnegieter, een man die gewoon is wat meer te doen, als hy van ſijn Baas geleerd heeft. 't Is een Pot, waar in men 't water eerſt in een born-waters kanne gekookt, overgiet, en 't welk daar in met een kleyne kole vuurs heet blyft: in 't midden van 't heet water is een *trek potje*, waar in men THEE doet, en met 't openen van een kraantje, ſoo veel waters laat in lopen, als nodig is, om te trekken: dit *trek potje* is dan nog evenwel geheel als gedompelt in 't heete water, en dat is de oorſaak, dat de *Thee* eens ſo wel, en ſoo ras word uytgetrokken: maar 't geen alles overtreft, is dat deſe pot ſtaat in een tinne ſchotel, en pareert wel van alle zyden en heeft ſijn kraantjens, om elk voor ſig te tappen, ſoo van 't extract als van 't heete water, ſoo veel als 't hem belieft: dit is een groot gemak om THEE in een groot geſelſchap te drinken, en om niet te vermogen een ſchenker, of hem te verhitten, en (gelijk ik ondervonden hebbe) tot ſiekte en ſtervens toe. Die deſe *Pot* heeft met de *Porceleyne kopjens* en *ſchoteltjens* en 3 of 4 *born-water kannen*, die heeft al 't gereetſchap, om met playſier en gemak THEE te drinken ſonder de hitte van 't vuyr, of den arbeyd van het ſchenken te moeten lyden.[80]
>
> I must not remain silent about a certain convenient invention made from a pewter pot here in The Hague by Mr. *Jan de Hartog*, a master pewterer, whose practice it is to go beyond what he has learnt from his boss. It is a pewter pot, into which the water is poured that has first been boiled in a water pitcher, then kept warm by means of a small coal fire. In the middle of the hot water is a little *sieve pot* into which TEA is put, and by opening a tap just as much water can be released as is needed for steeping the tea. This little *sieve pot* is completely immersed in the hot water, thereby causing the TEA to be steeped quickly and completely, but the *pièce de résistance* is that this vessel stands on its own legs on a pewter saucer and is outfitted on all sides with little taps so that you can tap as much of either the tea extract or of the hot water as is desired: This is a great convenience for consuming the TEA in a large company, and renders a pourer superfluous, and helps to keep the tea hot without (as I have experienced) dreadfully overheating it for a long time. Whoever has such a *vessel*, along with the *porcelain cups* and *saucers* and 3 of 4 *pitchers*, has all the equipment needed in order to drink TEA with ease and pleasure without having to forbear the heat of the fire or the labour of pouring.

The invention described by Bontekoe is likely to have been the original prototype for all later Russian samovars.

Peter the Great (*imperabat* 1682–1725) visited the United Provinces from late 1697 to May 1698, and he took back with him to Russia not just first-hand knowledge of Dutch shipbuilding techniques from his working sojourn to the Zaandam shipyard, where he disguised himself as a labourer, but also many devices such as the буй *boei* 'buoy', брандспойт *brandspuit* 'fire hose' and the рупор *roeper* 'megaphone' and even the design for the Russian flag, which is modelled after the Dutch tricolour with the horizontal stripes rearranged in a different order. In view of the Russian tsar's enthralment with Dutch science and learning, a version of the samovar invented by Jan de Hartog in The Hague is likely to have been one of the many items which he took back to Russia with him from

80 Bontekoe (1678: 311–312).

FIGURE 6.13 Peter the Great inspects the frigate Peter and Paul on the IJ at Amsterdam, 72 × 96 cm, oil on canvas by Abraham Storck (1644–1708), Amsterdams Historisch Museum.

Holland. In fact, Russian lore preserves this tradition of the samovar's Western European origin.[81]

In addition to tea, Bontekoe propagated the use of coffee, chocolate and tobacco as well, particularly in the enhanced and expanded 1679 edition of his work. All three commodities were articles of trade for the Dutch East India Company. So, Bontekoe would be perceived by the enemies of tea in England, who constituted a small but noisy minority, as having written his encomia about tea 'not as a physician, but as a Dutchman, eager to encourage so important an article of his countries commerce' [sic].[82] At the same time, the writings of Dutch 'tea doctors' such as Tulp and Bontekoe influenced French writers such as Dufour, who in 1685 assured his readers that tea alleviates apoplexy, lethargy, paralysis, dizziness and epilepsy, catarrh, sore eyes, ringing in the ears and numerous other such indispositions.[83]

Tea was even further medicalised in Paris in 1687 by the French physician Nicolas de Blégny, who drew heavily on the earlier work by 'Monfieur Tavernier', 'Monfieur du Four' and 'Tulpius Medecin Hollandois', and undertook to manufacture and dispense a sweet tea syrup in Paris which he ad-

81 Elena Hellberg-Hirn. 1998. *Soil and Soul: The Symbolic World of Russianness*. Aldershot: Ashgate Publishing (p. 159).

82 A Tea Dealer. 1826. *Tsiology; a Discourse on Tea being a Account of that Exotic; Botanical, Chymical, Commercial, & Medical, with Notices of Its Adulteration, the means of Detection, Tea Making, with a brief History of the East India Company*. London: William Walker (p. 56).

83 Dufour (1685: 240–241).

FIGURE 6.14
A five kopek Soviet stamp depicting a baroque Russian samovar, which had improved upon the original design developed by Jan de Hartog in The Hague

ministered to drive out fever.[84] In Holland too, tea would continue to be treated as a medicinal herb, although it had already become a popular and commonplace beverage. In his sixty-ninth letter to the Royal Society in London, written on the 4th of January 1692, Antoni van Leeuwenhoek qualified tea to be an effective treatment for kidney stones, and in his seventieth letter to the Royal Society, written on the 1st of February 1692, he described his investigation of tea salts, which he had received in *een flesje met sout van Thé* 'a bottle with the salt of tea' from the Dutch East Indies.[85] What this substance might have been is anybody's guess.

By the time that the physician Steven Blankaart published his descriptive treatise on the foods and spices of the Dutch bourgeois household in 1683, tea had become a regular beverage consumed on a daily basis in the Netherlands amongst all those who could afford it. The prices for tea at this time were still quite steep, but Blankaart lambastes those not buying tea as mean and stingy and qualifies as parochially pig-headed those who do not care for tea.

84 de Blégny (1687, 'Du ſirop de Thé Febrifuge', p. 54 et seq.).

85 Antoni van Leeuwenhoek. 1693. '69$^{\text{ſte.}}$ Missive, van den 4$^{\text{den.}}$ January 1692. Geſchreven aan de Koninglijke Societeyt tot Londen' en '70$^{\text{ſte.}}$ Missive, van den 1$^{\text{ſten.}}$ February 1692. Geſchreven aan de Koninglijke Societeyt tot Londen', pp. 362–374, pp. 375–395 in *Derde Vervolg der Brieven, Geſchreven aan de Koninglijke Societeyt tot Londen*. Delft: Henrik van Kroonevelt.

ALſoo de *Thee* in ons land tot een gemeene drank geworden is, kan ik geenſins nalaten mijn gedagten daar van op 't papier te brengen.

De meeſte menſchen, zijnde gemeenlijk met een groot vooroordeel beladen, veragten de thee in 't begin, maar ſoo ras als ſy de ſmaak te regt gewoon worden, zijnſe ſomtyds de grootſte liefhebbers. egter zijnder eenige ſtyf koppen, die liever door een muur met haar hooft ſouden willen loopen, dan de klaare Son op den middag aanſien: om datſe te gierig ſijn om thee te koopen, en die met een ſoet geſelschap te orberen, willende liever haar geld bewaren, en dikwijls ſiek zyn.

De *Thee-drank* is d'aldergeſonſte drank die my tot nog toe bekend is: want het kruid zynde van ſyne deelen, met een heet water geweikt, en van ons al ſlobberende gedronken, tot twaalf of twintig kopjes toe, doet ons bloed en ſappen verdunnen, en des te beter om loopen: het beneemt allerlei ſiekten, zynde een goede koeldrank in de koors, hoe meer hoe liever gedronken: ik heb'er de koors wel mede verdreven, met eenige andere middelen gemengt.

Ik ſpreek boven van twaalf of twintig kopjes thee, doch ik wil niemant hier in verbinden hoe veel hy drinken moet, yder drinke ſoo veel het hem believt, niet al te ſterk getrokken, maar middelmatig. men behoeft mede d'alderkoſtelijkſte thee niet te koopen, de middelmatigſte is ook goed genoeg: men kan de ſelve altyd wel een

aangename geur geven 't fy met jafmijn, balfem van peru, nagelen of diergelijke, men hoeft geen geurige thee van tagtig gulden, by uitnementheid *Keifers thee* gefegt; van tien tot twintig guldens is genoeg.

De thee is niet alleen voor oude luiden maar felfs ook voor de kinderen feer gefond en aangenaam, gelyk ik verfcheide kinderen ken, die, wanneer der thee gedronken werd, meinen dat haar ongelijk gefchied, als ze niet mede haar deel krygen.[86]

As *Tea* has become a common drink in our country, I cannot neglect to put my thoughts regarding it onto paper.

Most people, prejudiced as they are with a large bias, tend to despise tea in the beginning, but as soon as they grow accustomed to the taste, they often become its most ardent fans. Yet there are those stubborn souls who would rather walk through a wall with their head than see the clear sun at midday, because they are too stingy to buy tea and to enjoy it in good company, rather wishing to save up their money, and so are often sick.

The *Tea drink* is the healthiest of beverages yet known because the herb being of a fine substance and, steeped in hot water, then drunk by us in a slurping fashion, as many as twelve or twenty cups, thins our blood and juices and so improves circulation. It alleviates all sorts of disease, being a good cooling beverage against fever, which is drunk the more the better. I have myself driven out fever with it, mixed with a few other ingredients.

I just spoke of twelve to twenty cups of tea, yet I do not want to prescribe to anyone just how much they should drink, for may each person drink as much as it him pleases, not brewed too strong, but at medium strength. It is also not necessary to buy the most expensive of teas, the medium quality being good enough. One can always give this tea a pleasant fragrance by adding jasmine, balsam of Peru [*Myroxylon pereirae*], cloves and suchlike. One does not have to buy fragrant tea for eighty guilders, exceptionally called imperial tea; tea of ten to twenty guilders is enough.

Tea is not just for old people but also very healthy and pleasant for children, inasmuch as I know many children who, once they have drunk some tea, feel that they are being treated unfairly when they subsequently do not get their fair share.

In 1683, the year that Blankaart's description of the Dutch bourgeois household was published, the English philosopher John Locke sought refuge in Holland, fearing persecution by the reigning Stuart dynasty. John Locke would only return to England during the Glorious Revolution, which is known in Dutch as the *roemrijke overtocht* 'glorious crossing', the last time that England was conquered by a foreign power. A large Dutch fleet sailed from Hellevoetsluis and landed at Brixham in Torbay in November 1688. After a march on London, the Dutch *stadthouder* Willem III was installed as king William.

It was a quirk of fate that the ordinal numbers in the United Provinces and in England should have matched up. Willem Hendrick van Oranje happened to be the third Dutch *stadthouder* by the name of Willem and is therefore remembered as Willem III, and by consequence of the Glorious Revolution he also became the third king William of England.[87] The ascent of a Dutchman

86 Steven Blankaart. 1683. *De Borgerlyke Tafel, om lang gefond fonder ziekten te leven, Waar in van yder fpijfe in 't befonder gehandelt werd. Mitsgaders een beknopte manier van de fpijfen voor te fnijden, en een onderrechting der fchikkelijke wijfen, die men aan de tafel moet houden. Nevens De Schola Salernitana.* t'Amsterdam: by Jan ten Hoorn, Boekverkooper over het Oude Heeren Logement (pp. 84–86).

87 As fate would have it, the previous 'English' Williams, i.e. William the Conqueror (*regnabat* 1066–1087) and William II (*regnabat* 1087–1100), had likewise been for-

FIGURE 6.15
John Locke (1632–1704) in 1689, as portrayed by Herman Verelst (1641–1690), National Portrait Gallery, London

to the English throne put an end to the fierce rivalry between the England and the Dutch republic. However, before these glorious events would take place, three ferocious wars would first be waged between the two seafaring nations.

Before fleeing to Holland, John Locke had already been exposed to tea at Oxford during his medical studies, but it was during his five years in Holland that the great philosopher became an avid tea drinker. In Holland and later in England, Locke would prefer to drink tea in a small erudite company rather than to drink coffee, for he cared neither for the taste of coffee nor for the raucous ambiance of coffee houses. Returning to England, Locke found that English tea culture in his day still lacked the genteel sophistication of the tea culture to which he had grown accustomed in intellectual and academic circles in Holland.[88]

Much of the tea reaching Europe via Holland was traded not just by the Dutch East India Company, but also by company employees engaging in private trade. On the 6th of April 1685, the Lords Seventeen confirmed and augmented a recently placed order for tea in a letter to Johannes Camphuys, the governor general at Batavia, and therein finally decided to seize the monopoly on

eign conquerors, not of the House of Orange from the Low Countries, but of the dynasty of the House of Normandy.

88 Ellis, Coulton and Mauger (2015: 40–51).

the commodity which had proved lucrative and also henceforth to punish any and all private trade in tea, even for personal consumption.

> De thee die althans in soo groote menighte bij particuliere wort overgebracht, oock aan dese en geene, soo oock aan heere van merite en respect wort gesonden, en dat in soo groote quantiteyt van bussen, flessen, canassers et^c^. dat het alle maet te buyten gaet, hebben wij geresolveert voortaen te considereeren als een coopmanschap die de Compagnie voor haer alleen is reserveerende, en dat dienvolgende deselve nae desen bij niemant wie hij oock sij sal mogen werden overgesonden off overgebracht, selfs niet voor voeringh, op poene van confiscatie, en soodanige verdere mulcte als wij bij naerder overlegh daer op sullen houden te stellen; uyt die oorsaecke hebben wij dan goetgevonden den eysch, jongst daer van gedaen, te vergrooten tot twintigh duysent ponden, mits dat het sij goede versche thee, en soodanigh gepackt als in den eysch staet geextendeerd, gelijck wij voor dezen hebben geschreven is de door ouderdom gedeterioreerde en slechte thee bijna geen ghelt waerdigh.[89]

> Tea, being brought over in such large quantities by private individuals and then being sent to any old person as well as to gentlemen of merit, and which is brought in such a great quantity in boxes, bottles, canisters and so forth, such that it exceeds all bounds, we have hereby resolved henceforth to consider the trade in tea as a prerogative reserved exclusively for the Company, and consequently this commodity may henceforth be brought in or imported by no one, whoever he may be, not even for personal consumption, upon the punishment of confiscation and the payment of any additional fine which we may upon careful consideration deem it appropriate to exact. For this reason we have judged it appropriate to increase the recently placed order to twenty thousand pounds of tea, as long as the tea is good and fresh and packed as specified in the order, for, as we have written, bad tea and tea that has deteriorated on account of its age is virtually worth no money at all.

The crew of the Dutch East India Company were allowed to import merchandise up to the value of four months' wages, whilst officers were entitled to a certain amount of privileged tonnage. Upon homecoming, these goods were supposed to be inspected for contraband, which from 1685 included tea.

Smuggling remained a problem for the Dutch East India Company, however, principally in connection with tea. The way that two fiscal inspectors in Batavia, upon receipt of an incentive of two silver ducatons, in 1721 casually overlooked two *kanassers* 'bales' of tea in the *kooigoed* or berth bedding and bedclothes of a sailor departing for Holland was not atypical.[90] The Dutch East India Company monopoly on tea may not have been airtight, but their grip on the tea trade was firm, and this led to conflict with the insular neighbours across the North Sea who, in emulation of Dutch and French fashion, had taken to tea with an inveterate passion.

The First Anglo-Dutch War

The historical context in which the tea drinking fashion wafted across the North Sea from Holland to England was fraught with rivalry between the two maritime powers. Unifying the competing Dutch companies into the single monopoly of the Dutch East India Company in 1602 had enabled Dutchmen to trade in Asia without having to shed each other's blood and, perhaps of greater concern to the States General, without depressing the price

89 quoted by Schlegel (1900: 470–471).

90 Johannes de Hullu. 1914. 'De matrozen en soldaten op de schepen der Oost-Indische Compagnie', *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië*, 69 (2–3): 318–365.

of pepper and spices on the Amsterdam market with a glut. The new Dutch company envisaged exercising a monopoly on particular commodities, especially when certain spices such as nutmeg and mace were literally worth their weight in gold by the time that they arrived in Europe.

The Banda Islands in the Moluccas were the sole source of nutmeg and mace, and the Dutch East India Company had begun trading in these spices from 1605 and were determined to maintain their monopoly. The English established a presence on *Pulau Run* 'Run Island', one of the neighbouring islands, from where they undertook furtively to trade with the Bandanese, whilst the Dutch sought to enforce their monopoly. A group of Dutchmen were killed by the Bandanese in 1609, and in the course of the ensuing decade the Dutch and English fought each other viciously.

During this period, on the island of Bantam, Jan Pieterszoon Coen, in his capacity as director general of the Dutch East Indies, penned down the following bellicose philosophy in his letter of the 27th of December 1614 to the *Heeren XVII* 'Lords Seventeen', who governed the Dutch East India Company from its headquarters in Amsterdam.

> … per experientie behoorden de Heeren wel bekent te wesen, dat in Indien de handel gedreven ende gemainteneert moet worden onder beschuttinge ende faveur van U eygene wapenen ende dat de wapenen gevoert moeten werden, van de proffyten, die met den handel syn genietende, invoege dat de handel sonder d'oorloge, noch d'oorloge sonder den handel nyet gemainteneert connen worden.[91]

> … the Lords should known from experience that, if the trade is to be conducted and maintained under protection and by virtue of your own weaponry, furnished through the profits acquired from that trade, then it follows that one can neither conduct trade without waging war nor wage war without conducting trade.

Seven years later, in 1621, after relentless intrigues by English interlopers had led to an escalation of a conflict with the Bandanese, this same Coen ordered a massacre of the islanders. Of an estimated population of over 13,000 people, most islanders were killed by the 2,000 troops under his command. Many Bandanese fled into the mountains, and some fled on boats to neighbouring islands. Hundreds were deported to Batavia. Masterless samurai executioners from Japan in the service of the company, known as *rōnin* 浪人, beheaded several dozen Bandanese village headmen.

The rivalry between Dutchmen and Englishmen had culminated in the darkest and most gruesome episode in the history of the Spice Islands. Yet even after these horrific happenings, an English presence persisted in the Moluccas, leading in 1623 to what the English would subsequently refer to as the 'Amboyna massacre'. This incident involved the arrest on the island of Ambon of about two dozen people, some of whom were tortured and executed whilst a number were pardoned and came away from the ordeal relatively unscathed. English reports at that time widely publicised and exaggerated the Dutch punitive intervention, in which some Englishmen were put to death. Yet the harsh punishments meted out in 1623 to a small number of Western merchants for pilfering nutmeg, although these measures received much censure in the English press, were but a trifle in comparison with the barbaric slaughter of thousands of innocent Bandanese villagers two years earlier, in 1621. The Dutch and English accounts of the 1623 events on Ambon differ widely, but after the punitive measures the English left the Spice Islands.

The bellicose comportment of the Dutchmen in the Spice Islands was altogether in consonance with the martial spirit of a country that at this time had already long been on a war footing. From its very inception in the 1560s, the Dutch republic had been at war with the Habsburg monarchy on the

91 Jonkheer mr. Johan Karel Jakob de Jonge, red. 1869. *De Opkomst van het Nederlandsch gezag over Java: Verzameling van onuitgegeven stukken uit het Oud-Koloniaal Archief. Eerste Deel.* 's Gravenhage: Martinus Nijhoff (blz. 24–25).

FIGURE 6.16
Fernando Álvarez de Toledo (1507–1582), grand duke of Alba, who as governor general imposed three forms of extraterritorial taxation on the Habsburg Netherlands from Madrid in 1569, painted by Anthonis Mor van Dashorst in 1549, Koninklijke Musea voor Schone Kunsten van België, Brussels

throne of a united Portugal and Spain. Previously, the Low Countries had formed the principal part of the Burgundian inheritances of the Habsburg emperor Charles V (*imperabat* 1519–1556) within the Holy Roman Empire. In 1500, Charles V was born in Ghent and raised as a native of the Low Countries. In addition to Dutch, he also spoke French and Spanish, and it was in 1521 at the city of Worms in the German hinterland that he issued an edict branding Martin Luther a heretic and proscribing his teachings. In 1566, Charles V abdicated and retired to the monastery of Yuste in Spain. With the accession of his son Philip II (*regnabat* 1556–1598), the centre of the Habsburg court moved to the Escorial near Madrid in Spain, where the Habsburg family had deemed it wise to have Philip II raised, at a safe distance from the religious turmoil of the Reformation in northern Europe.

The United Provinces established themselves as an independent nation in revolt against the Habsburgs because, in the wake of the Reformation, the people of the Low Countries wanted freedom of religion and, more importantly, they resented being taxed from afar. After the Iconoclast Fury or *Beeldenstorm* in the summer of 1566, religious allegiance to Roman Catholicism and to the House of Habsburg was enforced by Fernando Álvarez de Toledo, the grand duke of Alba, who had

been appointed as governor general of the Habsburg Netherlands. His campaign of persecution was orchestrated through a tribunal, instituted in September 1567 known as the Council of Troubles (Dutch *Raad van Beroerten* or Spanish *Tribunal de los Tumultos*).

The reason that the Dutch revolt was embraced by the entire population and became a popular uprising was the objection to taxation from afar. Under the grand duke of Alba in 1569, the extraterritorial taxation from Madrid took the form of the *Honderdste Penning*, a 1% tax on wealth and real estate, the *Twintigste Penning*, a 5% real estate sales tax, and the *Tiende Penning*, a 10% sales tax. Extraterritorial taxation led to a fierce war of secession from the Habsburg realm and to the *de facto* independence of the United Provinces.

From the 1590s, the United Provinces successfully gained a foothold in the Asian trade, and the Dutch republic quickly gained supremacy in world trade along with great military and naval might. Jan Pieterszoon Coen was just one exponent of this prevailing martial spirit. By the 1640s, the United Provinces were at the zenith as a trade power, a position that the Dutch republic would retain until at least 1672. The *stapelmarkt* or *entrepôt* at Amsterdam was the major hub of this trade. The commercial superiority of the United Provinces over England in this period is attributed to a variety of factors.

The economy of the United Provinces benefitted from low shipping costs, low interest rates, the strength and stability of Dutch financial institutions, superior shipbuilding and a larger shipbuilding capacity. Another problem which vexed English mercantilists was the inferior quality of English goods and the superiority of Dutch manufacture at the time. State intervention in manufacture and protectionist measures against free trade were thought by English mercantilists to be better ways to redress the imbalance than giving reign to free enterprise.[92]

After the conclusion of the Eighty Years' War and the signing of the Peace of Münster in 1648, the comparative advantage of the United Provinces over England in the trade in the Baltic, the Mediterranean and Asia became even more pronounced.[93] Across the North Sea, the Roundheads and Cavaliers were waging the English civil war (*gerebatur* 1642–1651). After the public beheading of king Charles I in 1649, the Roundheads were in a state of jubilation. In 1651, the hopeful Oliver Cromwell sent the envoys Walter Strickland and Oliver St. John to The Hague in an attempt to seek a union of amalgamation that would have joined the Commonwealth of England and the United Provinces into a single nation. The States General deliberated and discretely delayed until Cromwell finally realised that the thriving United Provinces had no interest whatsoever in such a political union. After their overtures had been spurned, the English envy at Dutch commercial success attained vile proportions.

In October 1651, Cromwell enacted the Navigation Ordinance as a measure designed specifically to target Dutch supremacy in maritime trade. The English banned the importation of goods from lands outside of Europe to England and to English colonies on any vessels other than English ships. This piece of legislation became the principal cause of the First Anglo-Dutch War (*gerebatur* 29 May 1652–8 May 1654). The First Anglo-Dutch War is traditionally called the *Eerste Engelse Oorlog* 'first English War' in Dutch. In English too, the label 'Anglo-Dutch War' is a relatively late coinage. In the 18th century, these wars were still referred to in English as the 'Dutch Wars' or the 'Holland Wars'.[94] The major sea battles have quite different names in Dutch than in English as well.

92 Jonathan Irvine Israel. 1997. 'England's mercantilist response to Dutch world trade primacy, 1647–74', pp. 305–318 in *Conflicts of Empires: Spain, the Low Countries and the Struggle for World Supremacy 1585–1713*. London: Hambledon Press (p. 312).

93 Jacobus 'Jaap' Ruurd Bruijn, Femme Simon Gaastra and Ivo Schöffer. 1979. *Dutch Asiatic Shipping in the 17th and 18th Centuries* (three volumes, *Rijks Geschiedkundige Publicatiën* 165, 166, 167). The Hague: Martinus Nijhoff.

94 Daniel Defoe. 1712. *An Enquiry Into the Danger and Con-*

FIGURE 6.17 The Battle of Scheveningen on the 10th of August 1653

The *Driedaagse Zeeslag* 'three-day sea battle' is called the Battle of Portland (28 February–2 March 1653), the *Zeeslag bij Livorno* 'sea battle by Livorno' is the Battle of the Leghorn (14 March 1653), the *Zeeslag bij Nieuwpoort* 'sea battle at Nieuwpoort' is the Battle of the Gabbard (12–13 June 1653), and the *Slag bij Terheide* 'battle at Terheide' is in English the Battle of Scheveningen (10 August 1653).

By the Spring of 1653, England had lost over four hundred valuable ships and cargoes and sought peace. The gloom deepened in London each time that the negotiations broke down, but the Dutch held their ground, and the negotiations lasted nearly a year. The English gained no new maritime or economic concessions. The war ended formally with the signing of the Treaty of Westminster in April 1654, and, in the words of Jonathan Israel, the lack of tangible gains after so many dead and such great losses reflected 'the measure of England's failure'.[95] Yet Dutch trade was still subject to the stipulations of the Navigation Ordinance of October 1651. England opposed competition, and through its policy of confiscation England failed to respect property rights. The government of the United Provinces would not, however, be held responsible for smuggling carried out by private traders. Tea could be smuggled into Britain via the long coast and the islands from the Orkneys to Guernsey and the Isle of Man.

In North America, New Amsterdam in the New Netherlands had by this time become a major *entrepôt* for tea. In 1609, the territory of what today is the state of New York was first claimed for the United Provinces as *Nieuw Nederlandt* 'the New Netherlands' or, in Latin, *Nova Belgica* or *Novum Belgium* by Hendrick Hudson or Henry Hudson, an Englishman in search of a western passage to China in the service of the Dutch East India Company. Hudson captained the ship *Halve Maen* 'half

sequences of a War with the Dutch. London: Printed for J. Baker, at the Black-Boy in Pater-Nofter-Row.

95 Jonathan Irvine Israel. 1990. *Dutch Primacy in World Trade, 1585–1740*. Oxford: Clarendon Press (pp. 212–213).

FIGURE 6.18 *De Brederode voor Hellevoetsluis* 'the ship Brederode off of the coast of Hellevoetsluis' depicts the flagship of Maerten Harpertsz. Tromp, launched in 1644 and sporting the coat of arms of the city of Amsterdam on the stern, whilst the port and stern view of the vice-admiral's ship is seen on the left, oil on oaken panel, 76.2×106.7 cm, Simon de Vlieger, National Maritime Museum, Greenwich

moon' up the *Noortrivier* 'north river', which is today called the Hudson River. In 1614, under the command of Hendrick Corstiaensen, the Dutch built a fortified fur trading post called *Fort Nassau* or *Fort van Nassouwen* on an island in this river at the site of today's Albany. This island was subject to summer flooding, and so in the spring of 1624 a new fort was built just nearby on dry land to the south. The new settlement was called *'t Fort Orangie* 'Fort Orange' and would later develop into today's Albany. That same year, families of Dutch colonists were also settled on *Noten Eylandt* 'the island of nuts' in what today is the New York upper bay by Cornelius Jacobszoon Meij, the 1st director general of the New Netherlands.[96] One year later, in 1625, Fort Amsterdam and the Dutch city of *Nieuw Amsterdam* were founded on the southern tip of Manhattan.[97]

Under the 7th director general Peter Stuyvesant (*obtinebat* 1647–1664), the custom of tea drinking, already popular in the United Provinces, established itself at New Amsterdam. The drinking of tea was, in fact, given a boost by the first edict

96 *Noten Eylandt* or *Noten Eylant* 'the island of nuts' was thus named by Adriaen Block in 1614. Over a century and half later, the island would be renamed Governors Island.

97 Adriaen van der Donck, Johannes de Laet en Johannes Megapolensis. 1651. *Befchrijvinghe Van Virginia, Nieuw Nederlandt, En d'Eylanden Bermudes, Berbados, en S. Chriftoffel. Dienstelijck voor elck een derwaerts handelende, en alle voort-planters van nieuwe Colonien.* t' Amsterdam: Joost Hartgers.

FIGURE 6.19 *t' Fort nieuw Amſterdam op de Manhatans* 'the fort New Amsterdam on Manhattan', looking eastward with *Noten Eylandt*, today called Governors Island, on the right (van der Donck, de Laet en Megapolensis 1651: 21)

issued by the staunchly Calvinist Stuyvesant in May 1647. Alarmed by the number of public taverns in New Amsterdam, Stuyvesant banned alcohol. The pious Dutch Reformed Protestant was also notoriously averse to the presence of Jews and Roman Catholics in New Amsterdam. Whilst the inhabitants of New Amsterdam drank tea, their port city also provided the major *entrepôt* for shipping tea onward to the English colonies along the eastern seaboard, illicitly from the point of view of London.

To the south lay the Swedish colony of New Sweden or *Nova Svecia* in the drainage of the *Zuidrivier* 'south river', known today as the Delaware river. First settled in 1638, this territory comprised parts of the modern states of Delaware, Pennsylvania and New Jersey. This territory was seized by Peter Stuyvesant on the 1st of April 1655 and incorporated into the New Netherlands. April Fool's Day has its origin in the annual commemoration at New Amsterdam of the Dutch conquest of New Sweden.[98] On his homestead or *bouwerij* at the site of what today is the Bowery neighbourhood, the otherwise dour and mirthless Stuyvesant would once a year permit himself some levity. This odd legacy of Dutch colonial history is captured in Irving's satire of life in the New Netherlands.

> Once a year, on the first day of April, he used to array himself in full regimentals, being the

98 Arnoldus Montanus. 1671. *De Nieuwe en Onbekende Weereld: of Beſchryving van America en 't Zuid-land, Vervaetende d'Oorſprong der Americaenen en Zuid-landers, gedenkwaerdige togten derwaerds, Gelegendheid Der vaſte Kuſten, Eilanden, Steden, Sterkten, Dorpen, Tempels, Bergen, Fonteinen, Stroomen, Huiſen, de natuur van Beeſten, Boomen, Planten en vreemde Gewaſſchen, Godsdienſt en Zeden, Wonderlijke Voorvallen, Vereeuwde en Nieuwe Oorloogen Verciert met Af-beeldſels na 't leven in America gemaekt, en beſchreven*. t' Amsterdam: Jacob Meurs.

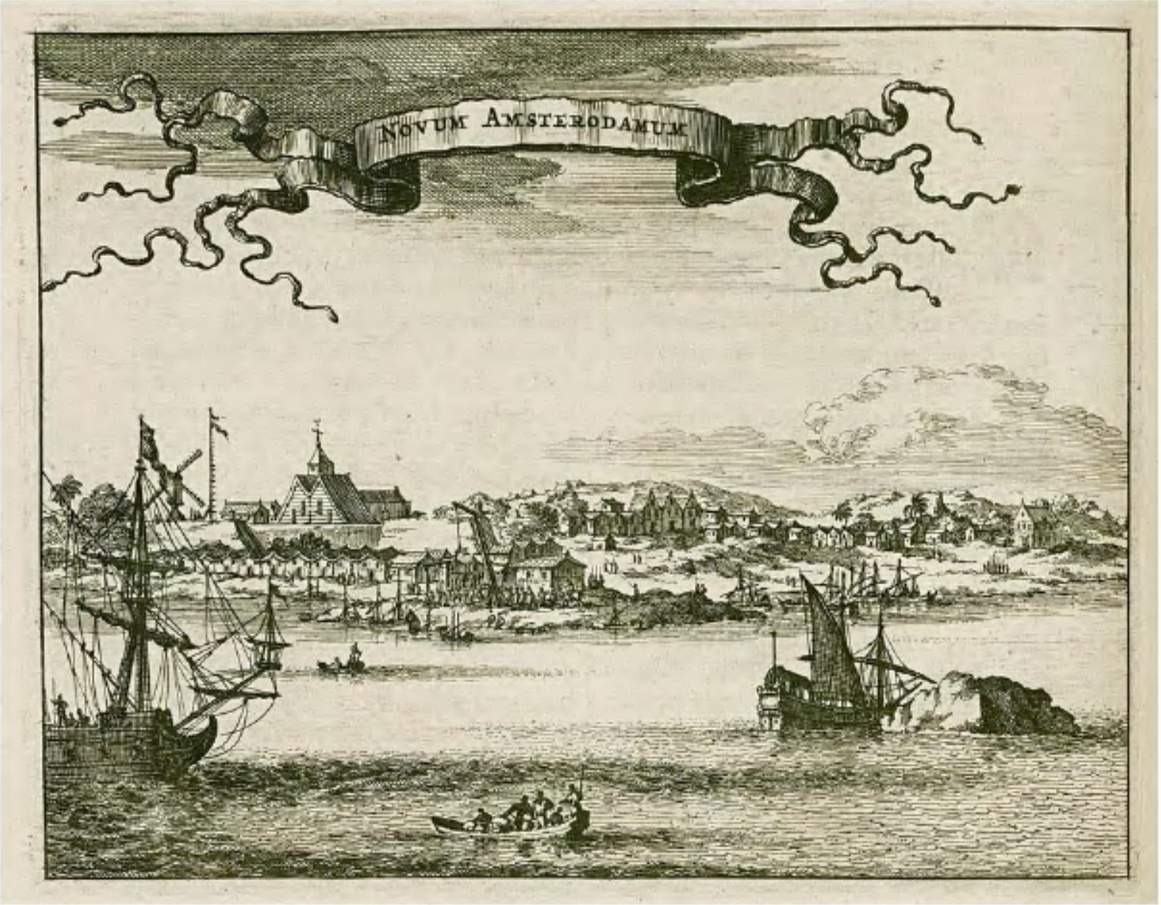


FIGURE 6.20 *Novum Amsterodamum* or New Amsterdam (Montanus 1671: 124)

anniversary of his triumphal entry into New-Amsterdam, after the conquest of New-Sweden. This was always a kind of saturnalia among the domestics, when they considered themselves at liberty in some measure, to say and do what they pleased; for on this day their master was always observed to unbend, and become exceedingly pleasant and jocose, sending the old grey-headed negroes on April fools errands for pigeon's milk; not one of whom allowed himself to be taken in, and humoured his old master's jokes, as became a faithful and well disciplined dependant.[99]

In April 1654, at the conclusion of the First Anglo-Dutch War, the United Provinces had agreed to abide by the Navigation Ordinance of October 1651, but Englishmen both in Britain and in the Americas continued to thirst for tea. Smuggling by private traders from Amsterdam and other ports in Holland and from New Amsterdam in the New Netherlands provided a means to ensure that consumer goods such as tea could be delivered to their

99 Diedrich Knickerbocker [i.e. Washington Irving]. 1819. *A History of New York, from the Beginning of the World to the End of the Dutch Dynasty, containing Many Surprisings and Curious Matters, the Unutterable Ponderings of Walter the Doubter, the Disastrous Projects of William the Testy, and the Chivalric Achievements of Peter the Headstrong, the three Dutch Governors of New Amsterdam; being the Only Authentic History of the Times that ever hath been published* (Third Edition, in Two Volumes). Philadelphia: M. Thomas (Vol. II, p. 253).

FIGURE 6.21
Peter Stuyvesant, ca. 1660, 22.5 × 17.5 cm, oil on wood, presumed to have been painted by Hendrick Couturier, gift of Robert van Rensselsaer Stuyvesant to the New York Historical Society

English buyers in a fair manner. In fact, it was the smuggling of Dutch tea that rendered possible the first public sale of tea by Thomas Garway at the Sultaness Head in Sweeting's Rents near the Royal Exchange in London in 1657.

The Second Anglo-Dutch War

The Declaration of Breda of the 4th of April 1660 asserted the intent of Charles II to return to the throne. Charles II left The Hague on the 23rd of May, landed at Dover on the 25th of May and was crowned the following Spring at Westminster Abbey. After the Restoration, the parliament in Westminster passed the First and Second Acts of Navigation on the 13th of September 1660 and on the 27th of July 1663. The second of these acts required that merchandise destined for the British colonies in North America first pass through England, where the wares would be taxed.

Like the ordinance passed by Cromwell, this legislation was aimed against free trade and sought to eliminate competition from the higher quality goods delivered at lower cost by the Dutch East India Company. A transaction agreement from 1664 recording the sale of *Koffij, Soukelade, The* 'coffee, chocolate, tea' by Tomas Richardson in Leiden to a merchant in England illustrates how English traders on both sides of the North Sea would collaborate to circumvent the Acts and effectuate a

FIGURE 6.22 *Afbeeldinge van de Stadt Amfterdam in Nieuw Nederlandt* 'Depiction of the city of Amsterdam in the New Netherlands', map of the city made in 1660 by the surveyor Jacques Cortelyou

lucrative business in the free trade of exotic commodities brought to Europe by the Dutch East India Company.[100]

Protectionist policies against free trade stemmed from English disgruntlement with the Dutch domination of global maritime trade. In his history of the United States of America, George Bancroft identified the Act of Navigation of 1660 as the prime cause in the chain of events that resulted in the American war of secession.[101] Whilst it is true that British policies against free trade substantively contributed to creating the circumstances which gave rise to the British colonial insurrection in North America, the immediate and principal cause of the American war of independence over a century later was extraterritorial taxation. This event forms one of the topics of Chapter Eight. In the wake of the Acts of Navigation, a second and more immediate cause of the Second Anglo-Dutch War was the capture of New Amsterdam.

In August 1664, English ships sailed into New Amsterdam and demanded the surrender of the New Netherlands. The surrender was signed on the 6th of September 1664, and two days later the English renamed the city New York in honour of the duke of York, the brother of Charles II, who would later become king James II of England (*regnabat* 1685–1688). The Dutch colonists prevailed upon Peter Stuyvesant not to resist so that the city would be taken peaceably without bloodshed. A century and a half later, in his satire of Dutch colonial history, Irving portrayed Stuyvesant as brooding resistance, whilst English agents were afoot beguiling the Dutch colonists 'with the most crafty and con-

100 ter Molen (1979: 35).

101 George Bancroft. 1888. *History of the United States of America from the Discovery of the Continent, c Author's Last Revision* (eight volumes). New York: D. Appleton and Company.

FIGURE 6.23 *NIEUW AMSTERDAM OFT NUE NIEUW IORX OPT TEYLANT MAN* 'new Amsterdam or now new Iorx on the Island Man' by Johannes Vingboons (1616–1670), painted in 1664, the fateful year that the English seized the main Dutch city in the New Netherlands

ciliatory professions', promising that they 'should have all the benefits of free trade, and should not be required to acknowledge any other saint in the calendar than Saint Nicholas, who should thenceforward, as before, be considered the tutelar saint of the city'.[102]

In fact, the Dutch *Sint-Nicolaasfeest* did not diminish in importance in New York after the English takeover and is just one of several New Amsterdam traditions that later became part of globalised Western culture, just like April Fool's Day, which began as a commemorative celebration of the Dutch capture of New Sweden. Even our current globalised style of observing the New Year was attributed by Irving as originating in New York in the Dutch style of celebrating the New Year as 'a day of open handed liberality, of jocund revelry, and warm hearted congratulation'.[103] The American Santa Claus originated in *Sinter Claes*, or—in modern Dutch orthography—*Sinterklaas*, although the practice of setting out one's wooden shoes was replaced in New York by hanging stockings from the mantelpiece by the chimney. The feast day of St. Nicholas is the 6th of December, and the festival is celebrated on this day in Belgium, whereas in Holland the presents are impatiently unwrapped on the evening of the 5th of December, which is called *pakjesavond* 'the evening of gifts'. In time, the date of the celebration in New York was moved back to coincide with Christmas.

After the English seizure of the colony, the old Dutch songs and nursery rhymes about *Sinter Claes* were in time translated into English, and so the patron saint of New Amsterdam became the *Sancte*

102 Irving (1819, Vol II, p. 241).

103 Irving (1819, Vol II, p. 252).

FIGURE 6.24 Painting of Broadway, Wall Street and City Hall in New York in 1797 by John Joseph Holland, showing the then still surviving remnants of Dutch colonial architecture, the Eno Collection of New York, New York Public Library. Broadway is a literal translation of Dutch *Breedeweg* but the portion of the street south of the intersection with Wall Street lay within the original New Amsterdam city walls and was originally called de *Heerestraet* before the entire thoroughfare came to be called *Breedeweg*. Today's Wall Street, though initially dubbed *het Çingel*, was in practice just referred to as *Langs de Wal* 'along the wall', because this way ran just along the inside of New Amsterdam's northeastern city wall.

Claus of New York.[104] The metamorphosis of the persona of *Sinter Claes* or *Sinter Klaas* into his American *avatār* Santa Claus is captured by Irving in his fictional embellishment of the historical Olaff Stevensz. van Cortlandt, who dreamt that 'the good St. Nicholas came riding over the tops of trees, in that self same wagon wherein he brings his yearly presents to children' and alighted 'on the southwest point of the island' of Manhattan, thereby revealing the site of the future New Amsterdam.[105] In subsequent dreams, van Cortlandt saw how:

> … in the sylvan days of New-Amsterdam, the good St. Nicholas would often make his appearance, in his beloved city, of a holyday afternoon, riding jollily among the tree tops, or over the rooves of the houses, now and then drawing forth magnificent presents from his breeches pockets, and dropping them down the chimnies of his favourites.[106]

Today Sinterklaas arrives in Holland each year on a steamboat from Spain, although the historical saint was a bishop at Myra in Lycia in the

104 Esther Singleton. 1909. *Dutch New York*. New York: Dodd, Mead and Company (pp. 297–300).
105 Irving (1819, Vol 1, pp. 135–141).
106 Irving (1819, Vol 1, p. 175).

FIGURE 6.25 An engraving of the Tea-Water Pump in New York City (Augustine E. Costello. 1887. *Our Firemen: A History of New York Fire Departments, Volunteer and Paid*. New York: Augustine E. Costello, p. 304)

FIGURE 6.26
In the mid 17th century, it became fashionable at Dutch afternoon tea often to flavour the tea with saffron.

FIGURE 6.27 The *Vierdaagse Zeeslag* or Four Days' Battle, waged between the Flemish and the English coasts from the 11th to the 14th of June 1666, a turning point in the Second Anglo-Dutch War, oil on canvas, 94×128.3 cm, Pieter Cornelisz. van Soest, National Maritime Museum, Greenwich.

4th century, whose remains are purportedly kept in the Basilica di San Nicola at Bari in the south of Italy. Did St. Nicholas first learn how to ride through the sky in his wagon, which later became a sleigh, in New Amsterdam, or was this aptitude for careening through the skies a superhuman attribute which he once possessed in Holland but somehow later lost?

New York became a pivot for the dissemination of a number of modern cultural traditions. Whilst the city was still under Dutch administration, New Amsterdam served as a major tea *entrepôt*. Therefore, it may come as a surprise to know that the city was from its very founding plagued by a fundamental obstacle for the tea connoisseur. One of the crucial lessons taught by Lù Yǔ 陸羽 in the 8th century was that the quality of the water used to brew the infusion was a principal determinant of the quality of the tea. This insight was understood by the Europeans when they took to tea in the 17th century. However, the quality of the water used to brew tea was always a major challenge for the Dutch and British colonists in the former New Amsterdam, where most of the local water was known to be foul.

The main fresh water reservoir serving Manhattan was *de Kolck*, which was a sprawling fresh water collect pond snaking through the area extending from today's Foley Square to today's Collect Pond Park. *De Kolck* drained into the East River just upstream from the base of today's Brooklyn Bridge. The old way that led from the city of New Amsterdam to Peter Stuyvesant's homestead or *de bouwerij* ran past *de Kolck*. When Pehr Kalm, pro-

FIGURE 6.28 *De verovering van de Royal Prince* 'The capture of the Royal Prince' on the 13th of June 1666 by Willem van de Velde the younger, Rijksmuseum, Amsterdam
PHOTOGRAPHED BY JAAP HOFSTEE

fessor of economy at the *Kungliga Akademien i Åbo* 'Royal Academy of Turku' in Swedish Finland, visited New York in November 1748, he observed that the best water source in Manhattan was especially reserved for making tea.

> There is no good water to be met with in the town itfelf, but at a little diftance there is a large fpring of good water, which the inhabitants take for their tea, and for the ufes of the kitchen. Thofe however, who are lefs delicate in this point, make ufe of the water of the wells in town, though it be very bad. This want of good water lies heavy upon the horfes of the ftrangers that come to this place; for they do not like to drink the water from the wells in the town.[107]

This one spring long remained the principal source of tea water in New York. Later an engine was installed to pump up the water from the source. At the beginning of the 20th century, this sole source of tea water was still known in New York as the Tea-Water Pump.

The source was located at the northern end of *Rooseveltstraet*, where this New Amsterdam street abutted onto the English colonial Chatham street, which was later renamed Park Row, and thus also close to where both *Paerlstraet* or Pearl Street and Orange Street, the surviving segment of which is today called Baxter Street, abutted onto Chatham Street.[108] Roosevelt Street, which continued to exist until the early 1950s, used to run roughly

107 Peter Kalm. 1770. *Travels into North America; containing Its Natural History, and a circumftantial Account of its Plantations and Agriculture in general* (three volumes). Warrington: William Eyres (Vol. I, p. 252).

108 Esther Singleton. 1902. *Social New York under the Georges 1714–1776: Houses, Streets and Country Homes,*

FIGURE 6.29 *Het verbranden van de Engelse vloot voor Chatham* 'The burning of the Royal Navy off the coast of Chatham' by Peter van de Velde depicts the capture of the British flag ships *The Royal Charles* and *The Unity*, which were towed across the North Sea to Holland as war booty, 73×108 cm, oil on wood, Rijksmuseum, Amsterdam.

from Chatham Street southeast to South Street, thus running parallel to James Street, a fragment of which still exists. Therefore the Tea-Water Pump was located close to the upstream portion of the brook by which *de Kolck* once drained into the East River. In other words, the spot of the Tea-Water Pump lay in the area of today's Chatham Towers and the United States District Court of the Southern District of New York on the Park Row side.

Much has changed since the 17th century, a time when the Dutch still called their language *Duytsch* and Dutchmen still called themselves *Duytschmannen*. It was in the 17th century that the Dutch first imported and savoured tea on a grand scale in trendy *theehuisjes* 'tea houses' or *theekamers* 'tea rooms'. Their *theegerei* 'tea tackle' was often prominently displayed, including fine Chinese cups as well as special cups for steeping saffron, which was sometimes added to fine green tea. In fact, saffron and a tiny saffron steeping vessel were in Holland once considered to be an indispensable component of a complete tea service.[109] Just as in the United Provinces, in the New Netherlands loaves of powdered sugar or pieces of candy sugar were provided for nibbling with the tea at New Amsterdam, where both the Dutch language and Dutch traditions would survive for quite some time after the change of hands.

The seizure of the New Netherlands and the extreme protectionist policies of the English soon led to the outbreak of the Second Anglo-Dutch War (*gerebatur* 4 March 1665–31 July 1667). Although the Second Anglo-Dutch War began with the worst defeat in Dutch maritime history at the Battle of Lowestoft on the 13th of June 1665, the tables turned

with Chapters on Fashions, Furniture, China, Plate and Manners. New York: D. Appleton and Company (p. 24).

109 Gillis Dyonisius Jacobus Schotel. 1867. *Het Oud-Hollandsch Huisgezin der Zeventiende Eeuw*. Haarlem: A.C. Kruseman (blz. 391–408).

FIGURE 6.30 The brainchild of Johan de Witt, the Dutch republic attacked the Royal Navy at its home base in the Thames estuary in June 1667 in what became known as *De tocht naar Chatham* 'The raid on the Medway', here as painted by Jan van Leyden in 1669. This sea battle was waged from the 9th to the 14th of June in the old Julian calendar then still in use in the British Isles, or from the 19th to the 24th of June 1667 in the Gregorian calendar of the United Provinces, 93 × 156.5 cm, oil on wood, Rijksmuseum, Amsterdam

after the Four Days' Battle, waged between the Flemish and the English coasts in June 1666. The St. James' Day Battle was waged in August 1666, and the war culminated in the Raid on the Medway in June 1667 with the Dutch, under admiral Michiel Adriaensz. de Ruijter, burning the Royal Navy, sealing off the mouth of the Thames and barring access to the port of London.[110] The blockade of London which brought England to the peace table in Breda is still celebrated in a Dutch nursery rhyme, though today most children chanting the triumphant verse are blissfully unaware of its bellicose history:

Witte zwanen, zwarte zwanen!
Wie gaat er mee naar Engeland varen?
Engeland is gesloten.
De sleutel is gebroken.
Is er dan geen smid in 't land
Die de sleutel maken kan?
Laat doorgaan
Laat doorgaan
Wie achter is moet voorgaan!

White swans, black swans!
Who will sail along to England?
England is closed.
The key has been broken.
Is there then no smith in the land
That can repair the key?
Give passage
Give passage
He who is behind must now lead!

110 Again the Dutch and English names of major battles differ to some extent: *de Zeeslag bij Lowestoft* 'the Battle of Lowestoft' (13 June 1665), *de Vierdaagse Zeeslag* 'the Four Days' Battle' (11–14 June 1666), *de Tweedaagse Zeeslag* 'the St. James' Day Battle' (4–5 August 1666, but according to the Julian calendar then still in use in England on 25 July, which is St. James Day), *de tocht naar Chatham* 'the raid on Medway' (19–24 June 1667).

FIGURE 6.31 Allegorical depiction containing a white swan by Jan Asselijn, painted some time after the 30th of July 1653, when Johan de Witt was appointed *raadpensionaris* of Holland and thereby leader of the Dutch republic, presumably during or shortly after the First Anglo-Dutch War (*gerebatur* 29 May 1652–8 May 1654), 144×171 cm, oil on canvas, Rijksmuseum, Amsterdam

By the time of the Second Anglo-Dutch war, the white swan motif was already quite prevalent in Dutch populare lore, as shown by the famous allegorical painting from the 1650s by Jan Asselijn. This work of art became the first acquisition of the *Nationale Kunstgalerij* when this collection was established in The Hague in 1800. After several peregrinations within Holland, the national art gallery become today's *Rijksmuseum* in Amsterdam in 1885. The predatory dog in the water is labelled DE VIAND VAN DE STAAT 'the enemy of the state', the swan is labelled DE RAAD-PENSIONARIS 'the grand pensionary', the *de facto* leader of the United Provinces, and the egg that it is protecting is labelled HOLLAND. At the time that the painting was executed, the grand pensionary was Johan de Witt, who led the Dutch republic to victory during the First and Second Anglo-Dutch Wars.[111]

The English sued for peace, and the Peace of Breda was signed on the 31st of July 1667. Per

111 The Dutch royal airline, KLM or *Koninklijke Luchtvaart Maatschappij*, established in October 1919 and thus the oldest commercial airline still operating under its own name, resurrected the white swan motif in the 1990s and continues to use the white swan in its advertisements.

FIGURE 6.32 *Het opbrengen van het Engelse admiraalschip de Royal Charles*, the towing of the *Royal Charles* back to Holland as booty after the raid on the Medway, painted by Jeronymus van Diest between 1667 and 1672, Rijksmuseum, Amsterdam

plexing as this may seem today, New Amsterdam was ceded formally to Britain, and the United Provinces kept Suriname, the Windward Antilles, the Moluccas and a number of forts on the West African coasts which were of strategic importance to the slave trade. The Dutch sacrifice of the New Netherlands for Suriname at a time when they were virtually in a position to dictate terms, if they had not been in such a celebratory rush at Breda, seems, in retrospect, to have been an imprudent move for a party negotiating from a position of strength, but at the time the trade in sugar and spices was of far greater monetary value than the trade in furs and timber. Therefore, by provision of the treaty the British also relinquished *Pulau Run* 'Run Island', their only outpost in the Spice Islands, to the United Provinces.[112]

The Acts of Navigation were liberalised, and Acadia was returned to France. England would no longer be permitted to board Dutch ships on the high seas in an attempt to remove cargoes belonging to nations with which England happened to be at war. The politically fragmented region of tiny states that today is Germany was recognised as the legitimate hinterland of the Dutch republic so that commodities such as Silesian linens and Rhine wines could be shipped to England on Dutch vessels.[113] Meanwhile in Asian waters, the Dutch East India Company took the lion's share of intra-Asian trade in tea between Japan, Macau and Batavia. Chinese junks used to leave Macau in July for Japan and return in November, bringing the

112 Jonathan Irvine Israel. 1996. *De Republiek 1477–1806* (two volumes). Franker: Uitgeverij van Wijnen. [Dutch translation of Jonathan Irvine Israel. 1995. *The Dutch Republic, Its Rise, Greatness and Fall 1477–1806*. Oxford: Oxford University Press].

113 Israel (1990: 279).

FIGURE 6.33
Surinamese postage stamp from 1967, commemorating the decision taken three centuries earlier, in 1667, by the United Provinces at Breda to retain Surinam but to relinquish New Amsterdam

tea to Batavia. In addition to tea, the Dutch also began to hold the lion's share of intra-Asian trade in porcelain, vermillion, silk, cotton, hemp, quicksilver and various Chinese medicines, such as *radix Tsjina*, musk, alum and rhubarb.[114]

The Third Anglo-Dutch War

Charles II, much displeased with the Dutch victory in the Second Anglo-Dutch War, resorted to treachery. In 1670, England entered into a secret alliance with France in the Treaty of Dover, by which Charles accepted an annual bribe from Louis XIV to switch sides and break the terms of the Peace of Breda. Strategically, Charles' principal aim was to reduce Dutch maritime power and trade supremacy, but his actions were also driven by his fervent Roman Catholicism. The Third Anglo-Dutch War broke out on the 6th of April 1672, a year which is remembered in Dutch history as the *rampjaar* 'year of disaster', during which the outbreak of the war was but one of many calamities.[115] The United Provinces were overwhelmed by a joint English and French attack. Some of the catastrophes that befell the Dutch republic that year were the handiwork of the intriguing British ambassador George Downing, after whom Downing Street in London is named, and who fled Holland for his life that very year.

The Dutch fleet managed to stave off disaster in the major sea battles that punctuated the war,[116]

114 Valentyn, François. 1726. *Agtste Boek: Beschryvinge van het Eyland Ceylon, and Negende Boek: Beschryvinge van den Handel en Vaart der Nederlanderen op Japan, in Oud en Nieuw Oost-Indiën. Deel V: Keurlyke Beschryving van Choromandel, Pegu, Arrakan, Bengale, Mocha, van 't Nederlandsch Comptoir in Persien; en eenige fraaje Zaaken van Persepolis overblyfzelen. Een nette Beschryving van Malakka, 't Nederlands Comptoir op 't Eiland Sumatra, mitsgaders een wydlustige Landbeschryving van 't Eyland Ceylon, en een net Verhaal van des zelfs Keizeren en Zaaken, van ouds hier voorgevallen; Als ook van 't Nederlands Comptoir op de Kust van Malabar, en van onzen Handel in Japan, en eindelyk een Beschryving van Kaap der Goede Hoop, en 't Eyland Mauritius, met de Zaaken tot alle voornoemde Ryken en Landen behoorende.* Dordrecht: Joannes van Braam, and Amsterdam: Gerard onder de Linden (blz. 190 et seq.).

115 In one of the most gruesome incidents in Dutch political history, Johan de Witt, together with his brother Cornelis, was lynched by a rioting mob in The Hague in 1672. A now largely forgotten patriotic expression is the rhetorical question *Zijn wij dan geen jongens van Johan de Witt?* 'Are we then not lads of Johan de Witt', meaning that one is stalwart and strong.

116 All but one of the major sea battles have similar names in Dutch and English in the third war: *de slag bij Solebay* 'the Battle of Solebay' (7 June 1672), *de Eerste Slag bij het Schooneveld* 'the First Battle of Schooneveld' (7 June 1673), *de Tweede Slag bij het Schooneveld* 'the Second

FIGURE 6.34 Peace conference of Breda between the United Provinces and England on the 31st of July 1667, detail from a much larger engraving by Romeyn de Hooghe, Rijksmuseum, Amsterdam

and England suffered immense losses, not just from combat against Dutch men-o'-war but from attacks by Dutch privateers.[117] In 1673, at the height of the war, vice-admiral Cornelis Evertsen den Jonge of Zealand captained the *Swaeneburgh* and, with a fleet of twenty-one ships, recaptured the New Netherlands. He attacked Fort James at New York on the 24th of August 1673 and commanded captain John Manning to surrender the city. The Fort was renamed Fort Willem Hendrick, and New York was renamed *Nieuw Orangien* 'New Orange'.[118] In 1712, Daniel Defoe estimated that, in the Third Anglo-Dutch War, England had 'loft 2000 Sail of Ships great and fmall the first Year'.[119] The historian Jonathan Israel called this an exaggeration, but calculated that in fact well over 700 vessels were lost by the English during the Third Anglo-Dutch War. Not only did these colossal losses exert a deeply demoralising effect on English society at

Battle of Schooneveld' (14 June 1673), *de slag bij Kijkduin* 'the Battle of Texel' (21 August 1673).

117 Jacobus 'Jaap' Ruurd Bruijn. 1976. 'Dutch privateering during the Second and Third Anglo-Dutch Wars', *Acta Historiæ Neerlandicæ*, IX: 79–93; Israel (1990: 278–279, 297–299).

118 Cornelis de Waard. 1928. *De Zeeuwsche expeditie naar de West onder Cornelis Evertsen den Jonge, 1672–1674. Nieuw Nederland een jaar onder Nederlandsch bestuur.* 's-Gravenhage: Martinus Nijhoff.

119 Defoe (1712: 4).

FIGURE 6.35 *De Gouden Leeuw tijdens de slag bij Kijkduin* 'The Golden Lion at the battle of Texel' on the 21st of August 1673, oil on canvas, 149.8 × 299.7 cm, by Willem van de Velde the younger in 1687, National Maritime Museum, Greenwich. Although the English and their French allies were far superior in number, the Dutch fleet under Michiel Adriaensz. de Ruijter gained the upper hand.

the time, the records of these losses have largely been expunged from the English national record and are generally passed over in silence in English history books.[120]

The English parliament withdrew financing for the war and approved the peace proposal sent to London from the States General in The Hague. The Second Treaty of Westminster was signed and ratified in London in February 1674, and later approved and ratified by the States General in The Hague in March 1674. The recaptured city of New Amsterdam or *Nieuw Orangien* was handed back to the English and renamed New York again, and Suriname remained Dutch, essentially returning to the status quo at the conclusion of the Second Anglo-Dutch War. The war was not a victory for England, which conquered no Dutch overseas territories and failed to retake even Run island in the Moluccas or Fort Amsterdam, alias Cormantine, on the Gold Coast in what today is Ghana. Although England found herself incapable of breaking Dutch commercial supremacy by force, the waging of war against both England and France on multiple fronts, in combination with domestic political turmoil, amounted to an economic disaster for the United Provinces. The Dutch republic had suffered severe economic losses, although the Amsterdam *entrepôt*, Dutch shipping and the Dutch colonies had remained intact.

Yet for all the English envy about Dutch trade, the English were not successful in entering the tea trade themselves during this period. Since the English East India Company did not yet have any direct way to obtain tea, the first shipments of tea which they purchased as gifts for king Charles II had to be procured from the Dutch. In September 1664, the English East India Company procured 2 lb. 2 oz. of *'thea'* in six China bottles capped with silver to present to the king. In June 1666, a second purchase of 22¾ lb. was made for the king, and a tiny modicum of *'thea'* was simultaneously procured 'for the two *cheefe* persons who attended His Majesty'.[121] The first order for the importation of tea by the English East India Company was dis-

120 Israel (1997: 318).

121 Milburn (1813, Vol. II, pp. 527–542).

patched in 1668, containing the instruction 'Send home by these ships 100 lbs. weight of the best *tey* you can gett'.[122] Two years after the Peace of Breda, this first consignment was received from Bantam by the English East India Company in 1669 in two canisters, together weighing 143½ pounds, and an additional four pots of tea brought the total to 222 pounds of tea. Of this amount 132½ lb. were damaged and sold cheaply, and the rest was consumed by the Court of Committees.[123]

Their second batch came two years later, likewise from Bantam, and amounted to 264 pounds, but then the third batch only came another two years later during the Third Anglo-Dutch War, in 1673, and amounted to just 44 pounds with a few separate tiny shipments. After these first three shipments, a lapse of five years ensued during which no tea whatsoever was imported by the English East India Company. In the nine years from the first importation in 1669 to 1677, the English East India Company imported only 542½ pounds of tea, of which 132½ pounds turned out to be damaged. Until the end of the century, the English East India Company was unable to realise any appreciable trade in tea, and therefore most English tea was procured directly from Holland, either legally, and therefore usuriously taxed, or smuggled into the country.

Despite the losses suffered in the wars against the United Provinces, the English still saw protectionist measures as a viable instrument to compensate for their poor performance in trade, and a century later this approach would suddenly work to their detriment in an unprecedented manner. An effete response adopted by only very few in this tea loving nation at the time was to put the blame squarely on the shoulders of the tea plant itself. In a letter from Paris dated the 12th of August 1678, Henry Savile of the House of Commons reviled tea:

> TEA ... *a base unworthy Indian practice,* and which I must ever admire your most Christian family of not admitting. The truth is, all nations have grown so wicked as to have some of these filthy customs.[124]

Eccentric individual assaults on tea at this time would only increase in frequency and vehemence, and must be understood against the background of the lucrative Dutch trade in tea, which the English regarded with covetous eyes whilst consuming tea voraciously all the while. Only in 1678, four years after the conclusion of the Second Treaty of Westminster, did the English East India Company succeed in importing the first significant shipment of 4,713 pounds of tea to Britain, now not just from the Dutch at Bantam but also from the Dutch at Surat. In 1679, the size of the tea shipment dropped back again to just 340 pounds. A lapse of three years ensued, after which the Company imported just 7 pounds of tea in 1682, and this trifling amount was followed by a second lapse of three years.

Before, during and immediately after the Third Anglo-Dutch War, the face of tea culture changed in both the United Provinces and England. The first pewter samovar was invented by Jan de Hartog in The Hague in the 1670s, and at this time Chinese porcelain in Holland was often decorated with pewter or silver holders. Initially, tea was brewed in imported Yíxīng tea pots of red clay, but silver teapots began to be made in England from 1670.[125] Silver was not conducive to brewing tea with the best taste and therefore not favoured by tea connoisseurs in the United Provinces for a number of years still. Under king William III (*regnabat* 1689–1702), the use of silver tea services nonetheless became popular in England and also in Holland.

122 Sir George Birdwood. 1890. *Report on the Old Records of the India Office, with Supplementary Note and Appendices*. London: Eyre and Spottiswoode (p. 26).

123 Milburn (1813, Vol. II, p. 531).

124 *Mirror of Literature, Amusement and Instruction containing Original Essays*. 1828. London: J. Limbird (Volume X, p. 379).

125 Victor Henry Mair and Erling Hoh. 2009. *The True History of Tea*. London: Thames and Hudson (p. 73).

All this time, tea was coming to Britain primarily from Holland, and this situation would long persist even after the English East India Company began importing tea in earnest in 1685. The English change of tack was marked by a dispatch sent to Fort St. George on the 13th of February 1685, requesting an annual shipment of 'the very beſt and freſheſt *Thea*' and stating a preference for tea leaves of a greenish complexion.[126] The years from 1689 to 1692 were fat years for the English East India Company. This gave the English enough confidence finally to allow tea and spices to be imported legally from Holland by licence from 1693, albeit with steep duties excised.[127] Then after a lapse, fat years resumed again from 1697, reaching a total annual import of 32,209 pounds in 1707. From then on, there is a steady crescendo in volume. The greener and fresher the tea, the more highly valued, but proper green tea was first imported into England by the British East India Company only in 1715, although obviously much green tea was consumed in England before then.

After the turn of the century, the situation of the British tea trade changed dramatically. The 200,000 pounds of tea which the British East India Company imported into England between 1700 and 1704 exceeded all tea cumulatively shipped before this period, which amounted to 150,000 pounds. Another indicator of the rate of increase in tea consumption can be seen in that, between 1652 and 1700, only 181,545 pounds of tea were imported legally into England in total, which amount was less than 1% of what the annual consumption would be by the year 1800. Annual tea consumption in Britain reached 1 million kg by 1720.[128] A third comparison is that in the first half of the 18th century, between 1700 and 1750, a total of 40,269,300 pounds of tea were imported into England, whilst in the second half, between 1750 to 1800, a total of 471,800,906 pounds of tea were imported. In the ebullient period between 1751 and 1772, imports were almost doubling each year. In 1711, England imported 142,000 pounds of tea, which grew to 890,000 pounds of tea in 1741, then increased to 2,800,000 pounds by 1751, jumped to 4,9000,000 pounds in 1781, and then leapt to 15,000,000 pounds in 1791.

Conservatively estimated, at least a quarter of English tea consumption entered the country clandestinely and is therefore not accounted for in these figures. The Dutch tea trade still reached British shores. The rate of tea consumption accelerated in a nearly logarithmic fashion. By 1800, a total of £316,618,937 had been spent in 150 years of tea trade on 'this exotic plant', half of which had been spent in the last two decades of the century. In 1826, above 30 million pounds of tea were sold annually by the British East India Company.[129] The annual consumption of tea in Britain was just 12,000 tonnes in 1800, had risen to 17,000 tonnes by 1831, to 22,000 tonnes or 1.61 pounds per inhabitant per year by 1850, then to 49,000 tonnes or over 3 pounds per person by 1870, and by 1989 the annual consumption exceeded 89,000 tonnes annually or 5 pounds per person.

The Catherine Myth

Catherina de Bragança,[130] better known in English as Catherine of Braganza, landed in Portsmouth and married king Charles II in May 1662. Long before this time, tea from Holland was already being traded in London, where Dutch ships began to bring over small cargoes of tea from Holland from 1645,[131] nine years after the Dutch had star-

126 A Tea Dealer (1826: 95–100); Chaudhuri (1978: 386, 538, 608).

127 A Tea Dealer (1826: 104).

128 Jan de Vries. 2008. *The Industrious Revolution: Consumer Behaviour and the Household Economy 1650 to the Present*. Cambridge: Cambridge University Press (pp. 156, 173).

129 A Tea Dealer (1826: 94–100); Chaudhuri (1978).

130 *Catarina de Bragança* in modern Portuguese orthography.

131 Maria Rosa Schiaffino. 1987. *L'heure du thé: Voyage illustré dans le monde du thé*. Paris: Gentleman Éditeur (p. 14).

FIGURE 6.36 *De Gouden Leeuw valt de Prince aan* 'The Golden Lion assails the H.M.S. Prince' on the 21st of August 1673, oil on canvas, 66.1×86.4cm, Abraham Storck, National Maritime Museum, Greenwich. Sir Edward Spragge had taken an oath to Charles II to capture or kill his arch rival Cornelis Maertensz. Tromp. Instead, on the third engagement between Tromp and Spragge that day, a cannonball shot from Tromp's flagship *De Gouden Leeuw* sank the lifeboat on which the English commander had sought to make his escape, thus drowning Spragge.

ted to send cargoes of tea to Paris. At this time, the Dutch were already shipping tea across the Atlantic for the Dutch practice of taking afternoon tea at New Amsterdam.[132] By the 1650s, the shipments of Dutch tea to England had become regular and substantial enough for the London entrepreneur Thomas Garway to commence the public sale of tea at the Sultaness Head in 1657. This novel Asian commodity from Holland was already a fashion in aristocratic France and had now piqued the curiosity of the more adventuresome in England.

132 Singleton (1909).

In 1663, Edmund Waller wrote a poem 'of Tea, commended by her Majesty' to salute the Portuguese nation on the 25th birthday of the new queen. His celebratory poem stated that Portugal had both given the world tea and given England a fine queen.

In Venus her myrtle, Phoebus has his bays;
Tea both excels, which ſhe vouchsafes to praiſe.
The beſt of Queens, and beſt of herbs, we owe
To that bold nation, which the way did ſhow
To the fair region where the ſun doth riſe,
Whoſe productions we so juſtly prize.
The Muſe's friend, Tea, does our fancy aid;
Repreſs thoſe vapors which the head invade;

And keep the palace of the foul ferene,
Fit, on her Birth-day, to falute the Queen.[133]

Through this marriage, England received Bombay as a dowry, thereby forestalling imminent Dutch attacks aimed at seizing Bombay and other Portuguese territories on the west coast of India.

It is clear that during the heightened rivalry of the interbellum between the First and Second Anglo-Dutch Wars, an English poet and member of the House of Commons such as Edmund Waller was not about to credit the United Provinces with introducing tea to England. His poem lies at the root of one of the popular myths, often repeated in modern writings on tea,[134] that Catherine of Braganza introduced the drinking of tea to England by bringing tea along with her as part of her dowry, though this legend is no more than a fabrication. Tea was the most expensive exotic luxury beverage in England, many times more expensive than coffee or chocolate. The English upper crust were enamoured of the drink, and their only source of the commodity was from their foes across the North Sea.

Portugal conducted no significant tea trade at this time, and there is also no record of tea drinking in Portugal at this time.[135] Catherine, who hailed from the town of Vila Viçosa in the Alentejo, became a pawn in the political alliance between Portugal and Britain upon the end of Iberian Union. She was notoriously conservative in her culinary preferences.[136] Records of the period attest neither to her drinking tea before her arrival in England nor to her bringing tea with her to Britain.[137] The popular myth is all the more preposterous because Charles II, who returned to England in May 1660 from Scheveningen, was already familiar with tea before his return to England and his marriage to Catherina de Bragança. Charles II had spent many years in exile in the Netherlands and in Paris, where tea was a highly trendy indulgence of the well to do.

The United Provinces went to war thrice against England in the course of the 17th century over free trade, the most costly and soon principal commodity of which was tea. It was very much the patrician Dutch tea rage that had inspired English envy and emulation. This reality is precisely what Waller's verse sought to obscure. In highlighting the genuinely preeminent role of Portugal in first bearing knowledge of tea to the West, the poem gave birth to a myth surrounding Catharine of Braganza. Charles II nurtured a notorious personal envy of the Dutch, although he had lived so many years in exile in Holland. Three decades later, after the Glorious Crossing of the Dutch *stadthouder* Willem III in 1688, other English poets would just as sycophantically write poems to tea, glorifying instead king William III, the Orange on the English throne.

There is no evidence that Catherina de Bragança brought any tea to England, but Bombay was definitely part of her dowry. However, the Portuguese in Bombay and in Goa were quite reluctant to cede Bombay to the British, and the hand-over of this valuable Portuguese port in the Subcontinent to England required considerable correspondence and persuasion.[138] At the time, the Dutch already held Surat and the Malabar coast, and a secret article in the treaty concluded between king Charles

133 Percival Stockdale, ed. 1772. *The Works of Edmund Waller, Efq. in Verse and Prose*. London: T. Davies (p. 109).

134 e.g. Sarah Rose. 2009. *For All the Tea in China: Espionage, Empire and the Secret Formula for the World's Favourite Drink*. London: Hutchinson (p. 26).

135 João Teles e Cunha. 2012. 'O chá: Uma história do Oriente ao Ocidente', *Revista Oriente*, 21: 24–39.

136 Jorge Tavares da Silva. 1999. 'Catarina de Bragança: The tea drinking queen?', pp. 15–27 in Barrie and Smyers (op.cit.); Teles e Cunha (2002: 293).

137 Henrique Valente de Oliveira. 1662. *Relaçam diaria da Jornada, qve a Serenissima Rainha da Gram Bretanha D. Catherina fez de Lisboa a Londres, indo já defpofada com Carlos IJ. Rey daqvelle Reyno e das festas, que nelle fe fizeraõ até entrar em feu Palacio, Anno de 1662*. Lisboa: Na Officina de Henrique Valente de Olìueira, Impreffor delRey N.S.

138 Joseph Gerson da Cunha. 1900. *The Origin of Bombay* (*Journal of the Bombay Branch of the Royal Asiatic Society, Extra Number*). Bombay: Society's Library, Town Hall (pp. 254–268).

FIGURE 6.37
Marguerite Hessein de la Sablière (1640–1693) by Pierre Mignard (1612–1695), kept at château Bussy-le-Grand

II and king Afonso VI obliged England to protect Portuguese possessions in Asia from the United Provinces, but in practice England sought not to have to comply with this article due to differences in interpretation of the Latin text.[139]

Even though Bombay itself had been ceded to England, this was no deterrent to a Dutch attack. At the height of the Third Anglo-Dutch War, undeterred by the alliance by marriage between the English and Portuguese crowns, a Dutch fleet carrying 6,000 Dutch troops under command of Rijcklof van Goens attacked Bombay on the 20th of February 1673. When Charles II took New Amsterdam in 1664 and named the Dutch city after his brother the duke of York, he also named one of its new boroughs Queens in 1683 after Catherine. After Charles' death in 1685, she remained in London, where she resided at Somerset House until she left England for Portugal in March 1692, where she finally arrived in January 1693 after peregrinations through France and Spain. Catherine died in Lisbon on the last day of the year 1705.

139 Gerson da Cunha (1900: 241–247).

France, French Tea and Tea with Milk

The copious correspondence of the marquise de Sévigné, Marie de Rabutin-Chantal (1626–1696), vividly documents the daily life and foibles of French high society in her day. Most of her letters were written to her own daughter, Françoise Marguerite de Sévigné, whom she addressed as 'Madame de Grignan', for her daughter was the *comtesse* de Grignan. In one such letter to her daughter, written on the 16th of February 1680, the marquise de Sévigné recorded that Marguerite Hessein, dame de la Sablière, had innovated the practice of taking her tea with milk:

> Madame de La Sablière prenoit du thé avec son lait, elle me le disoit l'autre jour: c'étoit son goût.[140]

> Madame de la Sablière took tea with her milk, she told me so the other day: It was her taste.

It appears that having milk with one's tea might not be quite the same thing as having tea with one's milk, and those readers in England who advocate putting milk into their tea cups first before adding the tea will no doubt see a vindication for their method in the example set by Madame de la Sablière, as depicted in the wording of the marquise de Sévigné. At any rate, the fashion of taking tea with milk, or milk with tea, caught on amongst a segment of the French aristocracy and was already an established practice long before the English became the avid tea drinkers that they are today. The Dutch likewise first became familiar with the French practice of adding milk to tea at this time,[141] although the practice never became widespread.

Just five years later, in his influential treatise on tea, Philippe Sylvestre Dufour devoted a lengthy passage to *le Thé au lait* 'tea with milk', which he recommended as a remedy against coughs and maladies of the chest, dysentery and diarrhoea.[142] The taking of tea with milk is believed to have been introduced to England from France in this period, for the taking of tea was already quite fashionable amongst the Parisian élite. Cardinal Jules Mazarin, who served as the chief minister to the young Louis XIV from 1642 to 1661, famously took tea for his gout.[143] The second successful Siamese embassy to France and the fifth attempt to send a Siamese mission to the West made landfall at Brest in June 1686.[144] The Siamese envoys stayed in France until March 1687. One of the gifts which

140 Charles Nodier. 1836. *Lettres de Madame de Sévigné, de sa famille et de des amis* (nouvelle édition). Paris: Lavigne et Chamerot (Vol. 2, p. 108).

141 Schotel (1867: 407).

142 'indifpositions de la poitrine ... les difenteries & longues diarrhées' (Dufour 1685: 253–255).

143 Pierre Dubouchet. 1829. *Manuel des goutteux et des rhumatisans: moyens à l'aide desquels on peut se préserver et se guérir de ses deux maladies* (*troisième édition*). Bruxelles: La Librairie encyclopédique de Perichon (p. 84). On the other hand, as described in Chapter Five, one notorious case of excessive tea consumption led to oxalate nephropathy. In some cases of hyperoxaluria, it has been observed that the competitive inhibition of uric acid excretion by glycolic acid could lead to hyperuricaemia, which again could theoretically precipitate a bout of gout (Günther Wolfram und Wolfgang Gröbner. 1990. 'Beziehung der Hyperurikämie zu anderen Krankheiten', pp. 426–446 in Nepomuk Zöllner, ed., *Hyperurikämie, Gicht und andere Störungen des Purinhaushalts*. Berlin: Springer Verlag). However, Korean and Chinese researchers have shown that no relationship appears to obtain between gout and normal tea consumption (Jisuk Bae, Pil Sook Park, Byung-Yeol Chun, Bo Youl Choi, Mi Kyung Kim, Min-Ho Shin, Young-Hoon Lee, Dong Hoon Shi, Seong-Kyu Kim. 2015. 'The effect of coffee, tea, and caffeine consumption on serum uric acid and the risk of hyperuricaemia in Korean Multi-Rural Communities Cohort', *Rheumatology International*, 35 (2): 327–336; Yi Zhang, Yang Cui, Xuan-an Li, Liang-jun Li, Xi Xie, Yu-zhao Huang, Yu-hao Deng, Chao Zeng and Guang-hua Lei. 2017. 'Is tea consumption associated with the serum uric acid level, hyperuricaemia or the risk of gout? A systematic review and meta-analysis', *BioMed Central Musculoskeletal Disorders*, 18 (1): 95).

144 Previous embassies to the West from Àyúttháya: อยุธยา were not all successful. The first Siamese embassy to the West was dispatched by king Ɛka:thótsàrót เอกาทศรถ (*imperabat* 1605–1620) to Prins Maurits van Oranje-Nassau in The Hague. The Siamese embassy arrived in Batavia in December 1607 and from Java they sailed to Holland on board the *Oranje*, captained by admiral Cornelis Matelieff de Jonge. The two ambassadors were accompanied by the young dragoman Evert Dirckszoon, who had lived in Siam for six years. The two first Dutch emissaries to the Siamese court, Cornelis Speckx and his nephew Jan Volkertszoon, who had visited king Nárɛsuǎ:n นเรศวร in 1604, were also on board but both died on the homeward journey. After nearly three years in the Low Countries, the two Siamese ambassadors embarked for Batavia at Texel on the 30th of January 1610. The fleet of eight ships landed in Batavia only on the 19th of December after a harrowing journey plagued by tempests whilst rounding the Cape of Good Hope. Whether the Siamese ambassadors perished at sea or absconded after making landfall in Batavia, their fate remains a mystery, for they were never again seen at Àyúttháya: อยุธยา. The second Siamese embassy to the West was sent by king Na:ra:i

had been sent by king Na:ra:i นารายณ์ (*regnabat* 1656–1688) and brought by the Siamese ambassador Ko:sǎ:pa:n โกษาปาน to Versailles to present to the Sun King was *un bouilli d'or pour le thé*, a golden teapot. In 1690, Louis XIV took tea to drive out 'vapours' that made him ill.[145]

นารายณ์ to the French court in December 1680. His three ambassadors arrived in Bantam on the French vessel *Vautour* with two elephants, fifty cases of gifts and an entourage in January 1681. After seven months at the French godown, they embarked on the *Soleil d'Orient* for France in August 1681. The ship put into harbour at Mauritius in November 1681 and was then lost in a tempest in the Mozambique Channel. In 1684, king Na:ra:i sent two further embassies to Europe. The first consisted of two mandarins and four Siamese boys, who embarked in January 1684 and arrived at the Isle of Wight in September. Through the intercession of Paul de Barrillon, the French ambassador in London, the emissaries were able to put in an *acte de présence* at Windsor to see Charles II before continuing on to Calais and the court of Louis XIV at Versailles. The mission returned successfully to Àyúttháya: อยุธยา in 1685. The second of the two missions dispatched in 1684 was a full-fledged embassy to Dom Pedro II of Portugal (*imperabat* 1683–1703). The embassy consisted of three ambassadors, three half-caste dragomen and an entourage. This embassy embarked in March 1684, but reached Goa only in September 1684, and then only set sail for Portugal in the ship *Nossa Senhora dos Milagros* in January 1686. The vessel ran aground at the Cabo das Agulhas in April. The shipwrecked crew and passengers who managed to reach land then marched through the desert for thirty days, and one of the ambassadors perished in the desert. When the survivors finally reached the Cape Colony, governor Simon van der Stel sent the Portuguese back to Lisbon via Amsterdam, and the governor received the Siamese envoys graciously. In September 1686, van der Stel arranged the passage of the Siamese to Batavia on the *Sint Maartensdijk*, and they arrived in Batavia in December and stayed there for half a year, returning to Àyúttháya: in September 1686 (van der Cruysse 2002; Dirk van der Cruysse. 2002. *The Diary of Kosa Pan (Ok-Phra Wisut Sunthon) Thai Ambassador to France June–July 1686*. Chi:ang Mài: Silkworm Books).

145 Stanis Perez. 2007. *La santé de Louis XIV: Une biohistoire du roi-soleil*. Seyssel sur le Rhône: Champ Vallon (p. 94); Brigitte Éveno, Yves Bagros et Laurence du Tilly. 2002. *Éloge de la cuisine au thé: Livre de recettes*. Paris: Hachette (p. 5).

On Taking Sugar in One's Tea

Jacob de Bondt, who stayed in the East Indies from 1627 until his death in 1631, mentioned that having tea with sugar was a method occasionally practised by some affluent Chinese tea drinkers whom he observed in Java. In 1652, Tulp mentioned the practice of boiling tea with either a pinch of salt or alternatively with plenty of sugar as two possible ways of preparing tea which had been observed in the East. In 1654, de Rhodes corroborated that some Chinese tea drinkers added a little sugar to offset the natural bitterness of the beverage. In 1672, Philippus Baldæus inveighed against the 'abuse' of drinking tea whilst biting on a piece of rock candy, for he deplored this practice, in which he had observed some Dutchmen to indulge in Ceylon and in the East Indies.

We know from observations recorded by the Dutch physician and botanist Willem ten Rhijne in 1677 that this method of drinking tea with sugar had actually been adopted by Westerners from the Chinese, although by far not all Chinese indulged in the practice. Evidently, some of the Hokkien Chinese settled in the Dutch East Indies did so, however. After his two-year sojourn in Japan, Willem ten Rhijne wrote from Batavia that the Chinese steeped whole dried leaves of tea in hot water, as the Europeans had learnt to do from them. He noted that only very few Chinese tea drinkers would ever take their tea whilst chewing on a small lump of sugar, though the custom had been widely adopted and was often practised by Europeans in the East. He observed that to the Japanese, however, this practice of imbibing tea with γλυκύφιλοι (*glykýfiloi*) 'sweet kisses' was entirely unknown.[146]

In 1678, in his popular and influential Dutch treatise on tea, the physician Cornelis Bontekoe advised strongly against drinking tea that had been brewed too strong, after the Indian fashion. This Indian method of preparing tea was no doubt not dissimilar from the Persian method of brewing tea.

146 ten Rhijne (1677).

In this connection, Olearius reported in 1656 that the Persians habitually sweetened their tea with sugar, but the tea brought to Persia overland was bitter brick tea, and the tea brought to India came in the same form. The very word for tea in Hindi—*cāy* चाय—attests to this overland trade through Central Asia. The tea drunk in India and Persia was therefore a commodity different from the Chinese and Japanese tea that was available to Europeans through the maritime trade.

When the tea in Holland was brewed as strong as it was in India, its bitter taste often prompted people to add sugar, which, Bontekoe contended, spoilt the flavour of the tea and diminished its wholesome effects. In 1685, Dufour listed the practice of taking tea with sugar amongst the more venturesome and unusual ways of preparing the beverage:

> L'on fe fert de cette herbe en plufieurs façons … en y ajoûtant du fucre pour le prendre avec plus de plaifir … l'on la met infuser … dans quelque eau cordiale ou de bon vin delicat.[147]

> One can take this herb in different ways … one can take the tea with greater pleasure by adding some sugar … or the tea can be infused in a cordial or in a delicate good wine.

The priest Jacques de Bourges, who visited Siam in 1662, reported that tea in Siam was drunk after meals *tres-chaud avec un peu de fuccre* 'very hot with a bit of sugar'.[148] In 1689, the English traveller John Ovington likewise observed that some Europeans at the Dutch stronghold of Surat in Gujarat would take their tea 'with Sugar Candy'. Russians and Poles traditionally flavoured tea with honey or sugar, whereas some Russian tea drinkers have still retained the old custom of drinking tea *vprikusku* вприкуску, holding a small chunk of hard candy sugar between their teeth so that the tea washes past the sugar and picks up sweetness on the way.

Although the incidental use of sugar with tea is attested both in Holland and amongst Dutchmen in the East, evidently the admonitions of Baldæus and Bontekoe were heeded. The Dutch usually drank their tea neat, mostly, though not invariably, without sugar. The English adopted the fashion of tea drinking directly from Holland, and Englishmen were aware that tea in Holland was usually drunk unsweetened, but many Englishmen also knew that tea was on occasion consumed with sugar even in the Low Countries. The original purpose of the English teaspoon was to heap sugar into the tea.

When Thomas Garway introduced the sale of tea to London at his shop in the Sultaness Head in 1657, one of the formulations in his 1660 broadsheet entitled *An Exact Defcription of the Growth, Quality, and Vertues of the Leaf* TEA, in which he advertised his wares, implies that tea may have been drunk with sugar in England from the very outset. His broadsheet, which draws heavily from contemporary Dutch sources, lists the virtues of tea. To prevent stones and cleanse the kidneys and the ureter, he recommended that tea be taken with virgin honey *instead of* with sugar.

> It is very good againft the Stone and Gravel, cleanfing the Kidneys and Vriters being drank with Virgins Honey inftead of Sugar.[149]

The tea sold in Garway's shop came from Holland, as did the fashion of tea drinking itself. It would take until 1669 before the English East India Company would import its first batch of tea to England.

147 Dufour (1685: 222). With regard to the *décoction* of the herb *thé*, professor Henrich Tencke, professor at the University of Montpellier, in 1712 essentially repeated the words of Dufour: '… en y ajoûtant du fucre, pour la prendre avec plus de plaifir, & on la boit chaud' or infused 'dans quelque eau cordiale, ou de bon vin delicat'; Heinrich Tencke. 1712. *Formules de Médecine tirées de la Pharmacie galénique et chymique: Où il eft traité de la Methode d'ordonner toute forte de remedes Phamaceutiques, & de les adapter à chaque maladie.* Lyon: Jean Certe (pp. 226–227).

148 de Bourges (1666: 155).

149 Garway (1660).

The soldiers of Alexander the Great (356–323 BC) witnessed sugar cane during their invasion of the Panjab in 326 BC. Later both Theophrastus (ca. 371–287 BC) and Eratosthenes of Cyrene (276–194 BC) wrote about sugar cane.[150] By the lifetime of Pedanius Dioscorides (ca. 40–90 AD), sugar cane was already cultivated in the Near East and referred to in Greek as σακχαρις *sakkharis* and in Latin as *saccharum*, from Sanskrit *śarkarā* शर्करा.[151] After the First Crusade (*gerebatur* 1096–1099), the Venetians planted sugar cane in Cyprus and Crete, whence this cultigen was later disseminated to Sicily and Malta.

In the 15th century, the Genoese spread sugar cane to the Iberian peninsula, Madeira, the Canary Islands and Hispaniola. In the 16th century, sugar cane was transplanted to the Azores, São Tomé and the Americas, and soon the Portuguese, Spanish, Dutch, English and French all manufactured sugar in the New World for export back to Europe.[152] The global trade in sugar would balloon in tandem with the trade in tea and the growing habit of taking tea with sugar, even though the subtle balance of flavours and aromas in a very fine tea is destroyed by such a practice. The annual per capita consumption of sugar in England went from 4 lb. in 1700 to 18 lb. in 1800.

In 1744, an attempt was made to calculate how much tea was actually consumed in Great Britain using three different methods. In each case, the figure calculated for 1744 amounted to two millions pounds of tea annually. Today we know that the British East India Company, which at the time was the sole *legal* importer of tea, imported only 725,928 lb. in 1744. The three ways by which the actual consumption of tea in Great Britain were calculated are interesting in themselves. One method was to arrive at an estimate based on intelligence regarding the amount of tea smuggled into England from Holland, Sweden, Denmark and via the Isle of Man. Two other indirect ways of calculating the actual annual British tea consumption are even more revealing about the way tea was consumed in the British Isles at the time.

One calculation was based on the premiss that a third of the number of people and households in Great Britain, estimated at 1 million and 1½ million respectively, drank tea. It was assumed that each person in such a household drank half a pound of tea per year, and this assumption is in itself instructive. The more interesting calculation, however, reveals much about the way that the English consumed their tea, namely with lots of sugar, for the annual British tea consumption was calculated 'from the Quantity of Sugar confumed'. The annual sugar consumption in Great Britain in 1744 was known to be 800,000 cwt, i.e. 'eight hundred thoufand hundred weight'. The author of the treatise assumed that 'only a fourth Part of the Confumption of Sugar arifes from the drinking of Tea, in which I believe Family Experience will fufficiently juftify me'. The third parameter was a known quantity, namely that 'twelve to fixteen Pounds of Sugar are drank with every Pound of Tea'. In deriving the amount of tea consumed from the amount of sugar consumed, the author arrived at the same figure of two million pounds of tea being consumed annually in Great Britain by 1744.[153]

150 Theophrastus Eresius. 1644. *De Historia Plantarvm Libri Decem Græcè & Latinè*. Amstelodami [Amsterdam] apud Henricum Laurentium (pp. 452, 482); Percy James Greenway. 1945. 'Origins of some East African food plants, Part V', *East African Agricultural Journal*, XI (1): 56–63.

151 Hermolao Barbaro [Dioscorides Pedanius]. 1516. *In Hoc Volvmine hæc continentvr. Ioannis Baptistæ Egnatii Veneti in Dioscoridem ad Hermolao Barbaro tralatvm annotamenta, qvibvs morborvm et remediorvm vocabvla obscuriora in vsvm etiam mediocriter ervditorvm explicantvr*. Venice: Giovanni e Gregorio de Gregori (*Corollarii*, Liber Secvndvs, f. 42v, cccvi).

152 Charles Verlinden. 1972. 'From the Mediterranean to the Atlantic: Aspects of an economic shift (12th–18th century)', *Journal of European Economic History*, I (3): 625–646.

153 Anonymous [attributed to John Mackmath or James Ralph]. 1744. *Considerations on the Duties upon Tea, and the Hardships fuffer'd by the Dealers in the Commodity, together with a Proposal for their Relief*. London: M. Cooper at The Globe in Pater-nofter-Row (esp. pp. 4–5).

In 1750, a gentleman in Cambridge published an English translation of Johannes Pechlin's 1648 treatise on tea *De Potu Theæ*. His stated intent was to influence the English ladies to reduce their use of sugar in tea or to avoid it altogether.

> The natural way of drinking tea, (efpecially the *Green* forts) is certainly without Sugar, and too much dulcify'd, their Medicinal Virtue is taken off, which our Author fays, is not hindered by a little Sugar, and so rendered more Balfamick.[154]

Such measures, the author explained, would improve the health of the ladies in ways that would enhance the happiness of men.[155] Despite the suggestion that English women should abstain from sweetening there tea, in 1784 the duke François Alexandre Frédéric de la Rochefoucauld observed that the drinking of sweetened tea in England was universal and that Englishmen of all echelons of society were not deterred by the expense of the large quantities of molasses and sugar required for their tea.[156]

The illustrious Dr. Samuel Johnson preferred to take his tea 'With cream and sugar soften'd well'.[157] His admiring biographer, the Scottish lawyer James Boswell, was likewise a tea devotee. Upon contracting gonorrhoea from prostitutes during his visit to London, Boswell turned to green tea, which he thought to be 'a most kind remedy in cases of this kind'. In the contrite mood of his entry for the 13th of February 1763, he waxed lyrical about the relief that tea provided him from the discomfort of his venereal affliction.

> I am so fond of tea that I could write a whole dissertation on its virtues. It comforts and enlivens without the risks attendant on spirituous liquors. Gentle herb! Let the florid grape yield to thee. Thy soft influence is a more safe inspirer of social joy.[158]

Boswell no doubt took this remedy in a sweetened form because the practice of taking one's tea with sugar had become general in England by the 18th century. The Dutch on the other hand were reputed to abstain from sugar, but, when Boswell went to Holland later that year to continue his studies in civil law at Utrecht, he observed that abstention from sugar when taking tea was not universally observed in the Low Countries.

On the 7th of October 1763, he recorded the following observation:

> Last evening I was honoured with the company of the celebrated Professor Trotz … I proposed tea, and he told me that it would be very agreeable to him. I was surprised to see that he took sugar like an Englishman, because I had heard so many jokes about the narrowness of the Dutch in that article.[159]

154 'A Gentleman of Cambridge'. 1750. *A Treatise on the Inherent Qualities of the Tea-herb: Being an Account of the Natural Virtues of the Bohea, Green, and Imperial Teas. Collected from MSS. of Learned Physicians. Particularly from a Latin MS. entitul'd* De Potu Theæ, *Wrote by the Famous J.N. Pechlinus, principal physician to the late king of Denmark*. London: C. Corbett (p. 10). The original work by Pechlin appeared in Latin already in 1684, and a similar work was defended as a doctoral dissertation by Waldschmidt in Marburg the following year. Johannes Nicolaus Pechlin. 1684. *Theophilus Bibaculus sive de Potu Theæ Dialogus*. Francofurti: Johannes Sebastian Riechelius; Johann Jakob Waldschmidt. 1685. *Dissertatio Medica de Potu Theæ*. Marburgi Cattorum: Typis Johannis Jodoci Kürsneri.

155 In what represents a lovely case of semantic shift, the gentleman opined: 'There is no Pleafure equal to Intercourfes with the Ladies' (op.cit., p. iii).

156 Jean Marchand, ed. 1933. *A Frenchman in England 1784, Being the* Melanges sur l'Angleterre *of Francois de la Rochefoucauld*. Cambridge: Cambridge University Press.

157 James Boswell. 1833. *The Life of Samuel Johnson, Ll.D., including a Journal of a Tour to the Hebrides, A New Edition with Numerous Additions and Notes by John Wilson Croker* (two volumes). New York: George Dearborn (p. 506).

158 Frederick Albert Pottle and Peter Ackroyd, eds. 2004. *Boswell's London Journal, 1762–1763*. New Haven, Connecticut: Yale University Press (p. 189).

159 Frederick A. Pottle, ed. 1952. *Boswell in Holland, 1763–*

Originally the Dutch drank their green tea neat, and some Dutchmen occasionally sweetened their Bohea tea. Whether or not one took one's black tea with sugar was largely a matter of individual taste. Generally, however, Dutch tea drinkers seldom sweetened their tea. Interesting therefore is the curious survival for at least a century and a half in Dutch tea culture of a technique practised by some Chinese tea drinkers in the Dutch East Indies and witnessed by Jacob de Bondt between 1627 and 1631.

The Chinese custom of holding a piece of *kandij* or candy in one's mouth whilst drinking tea, referred to as γλυκύφιλοι 'sweet kisses' by Willem ten Rhijne in 1677, was retained in the New Netherlands, even after the Dutch colonies in North America had been ceded to the English. Washington Irving recorded how afternoon tea was served by Dutch families in New York: 'To sweeten the beverage, a lump of sugar was laid beside each cup—and the company alternately nibbled and sipped with great decorum'. In America, this peculiar practice persisted for a considerable time. In the middle of the 19th century, Charles Goodrich wrote:

> These peculiarities are observable, to some extent, in Dutch settlements, even to the present time. Within the remembrance of the author, the following occurrence took place. He was seated at the tea-table, while on a visit at a fine old Dutch gentleman's, when the mistress of ceremonies said to him, "Sir, do you stir or bite?" "Stir or bite! Madam, pardon me, I do not understand you." "O," she replied, smiling, "some persons prefer to stir the sugar in the tea; others, to bite the sugar and sip the tea."[160]

Washington Irving livened up his satire of Dutch colonial life in North America with numerous spurious accounts. In one of these spoofs, he described how 'an improvement was introduced by a shrewd and economic lady, which was to suspend a large lump directly over the tea table, by a string from the ceiling, so that it could be swung from mouth to mouth—an ingenious expedient'. In his prefatory 'Account of the Author', the entirely fictitious Dutch historian Diederich Knickerbocker, who had purportedly gone missing from his hotel in New York City, wrote that the 'worthy burgers' of *Fort Oranje* (i.e. today's Albany) had taken objection to this playful piece of slander.[161]

Yet this defamatory rumour was soon repeated by a gullible English tea dealer in 1826 in the following polemic passage.

> The Dutch are said to have carried refinement to an extraordinary length at their tea-tables; for, pretending that the admixture of sugar to the Tea is injurious to its flavour, they have such a piece of sugar candy, which they take out of the mouth when they drink the Tea. Indeed it has been said, that the same piece has, in some instances, served the whole family; and with all their boasted cleanliness this disgusting practice I believe to be general.[162]

Irving's rumour gave some ammunition to the London tea dealer who authored the book *Tsiology* in 1826, for just as the Dutch have traditionally made light of the English sweet tooth, the English have often made light of the abstemiousness of the Dutch. Yet to this day, although many in Holland take their tea neat, some do veritably indulge in adding sugar.

176, including his correspondence with Belle de Zuylen (Zélide). New York: McGraw-Hill Book Company (p. 43).

160 Charles Augustus Goodrich. 1859. *A History of the United States of America on a Plan Adapted to the Capacity of Youth and Designed to Aid the Memory by Systematic Arrangement and Interesting Associations*. Boston: Hickling, Swan and Brewer (pp. 117–118).

161 Irving (1819, Vol. 1, pp. 184, xii).

162 A Tea Dealer. 1826. *Tsiology; a Discourse on Tea being an Account of that Exotic; Botanical, Chymical, Commercial, & Medical, with Notices of Its Adulteration, the means of Detection, Tea Making, with a brief History of the East India Company*. London: William Walker (p. 88).

FIGURE 6.38
A caricature of George III as 'John Bull' with queen Charlotte and their six daughters at the tea table as anti-saccharites, by James Gillray in 1792

Taking tea with milk appears originally to have been a French practice, and taking sugar with tea was originally adopted from some Chinese tea drinkers in the Dutch East Indies by some Dutchmen in Asia. The practice of sweetening tea was then either adopted or, more likely, independently innovated by Persian tea drinkers. Yet the practice of drinking tea with sugar is even rarer in China than it is in Holland. It was the English who, with their notorious sweet tooth, subsequently embraced both habits and began regularly to take their tea with either milk or sugar or, most often, with both.

At the time of the French revolution, an increasing number of conscientious British people favoured the abolition of slavery in the British colonies. A movement of anti-saccharites forwent sugar in symbolic protest against the exploitation of slaves on the sugar plantations. A famous caricature from 1792 by James Gillray depicted king George III, ostensibly as 'John Bull', the quintessential Englishman, in the company of queen Charlotte and their six daughters at the tea table as anti-saccharites. In the print, the queen strives to persuade her sceptical and unhappy looking daughters to take their tea unsweetened.

> Oh, my dear Creatures, do but Taste it! You can't think how nice it is without Sugar:—and then consider how much Work you'll save the poor Blackeemoors by leaving off the use of it!—and above all, remember how much expence it will save your poor Papa!

Slavery throughout the British empire was finally abolished by an act of parliament in 1833, although India, Ceylon and the island of Saint Helena were exempted from the abolition of slavery until 1843.

The New Tradition of English Afternoon Tea

By the middle of the 17th century, the Dutch developed the still thriving custom of inviting each other for afternoon tea, and the custom of taking afternoon tea crossed the Atlantic and established itself in New Amsterdam at this time.[163] Decades later, during his years in Amsterdam, John Locke, who was much averse to the vulgarity of the English coffee house, enjoyed instead the genteel refinement of the Dutch tea table. Tea was drunk widely and generally in the cosmopolitan cities of Amsterdam, Leiden and The Hague, but people in more rustic towns such as Dordrecht were still unfamiliar with the commodity. Valentyn described the reaction of some parochial inhabitants of Dordrecht to their first exposure to tea in 1670.

163 Singleton (1909: 132–133).

FIGURE 6.39
Dutch family taking tea by Roelof Koets, ca. 1680
COURTESY OF SOTHEBY'S

Toen wierd het met verfoeying van ons voor Hoy-water uit gekreten, en nu luften het de allergeringfste Lieden al, in zoo verre, dat het, nevens de Coffie of Caweh, een der voornaamfte, en een Hoofd-Handel in ons Land geworden is.[164]

At that time it was rejected by us as hay water, and now already the lowliest sorts relish it, so much so that alongside coffee or *caweh* it has become one of the principal commodities of trade in our country.

By 1680, tea had become the preferred breakfast drink all over the Low Countries, and avid tea drinkers drank tea at any time of day.

However, as a social function, *theetyd* 'tea time' had established itself even earlier in Dutch civil life, as recorded by Johannes le Francq van Berkhey, as being at half past three, four o'clock or half past four.[165] When the Dutch *stadthouder* Willem III installed himself as the king of England in 1688, the Dutch custom of late afternoon or early evening tea became a daily practice observed

164 Valentyn (1726, *Derde Boek*, blz. 18).

165 Johannes le Francq van Berkhey. 1776. *Natuurlyke Historie van Holland* (Derde Deel, Vyfde Stuk): Amsterdam: Yntema en Tiebol (p. 1537).

FIGURE 6.40 Architecturally, even as the city grew, New York maintained a remarkably Dutch appearance even a century and a half after the city had passed into British hands, as seen in this acquatinted etching bearing the caption 'Broadway, New-York. Shewing each Building from the Hygeian Depot corner of Canal Street, to beyond Niblo's Garden, Published by Joseph Stanley & Co. Entered according to act of Congress by Josh. Stanley & Co. in the Clerks office of the Southern District of New York. January 26th 1836', image New York Public Library

at the English royal court. Afternoon tea was prepared and served using the porcelain vessels in the opulent collection of chinaware brought from from the Netherlands by queen Mary II in 1689. In Holland, John Locke had experienced Dutch tea as a sophisticated gathering of men of learning, but Dutch afternoon tea was often a gathering for friends and relatives, a convivial but staid affair, taken *en famille* or with friends.

The Dutch afternoon tea table became a custom in New Amsterdam under the 7th director general Peter Stuyvesant (*obtinebat* 1647–1664). In his irreverent account of colonial culture in the New Netherlands, Washington Irving satirised the Dutch afternoon tea table, which was held from three o'clock to six o'clock in New Amsterdam, *Fort Oranje* or Fort Orange (i.e. Albany), 'Communipaw, Bergen, Flat-Bush, and all our uncontaminated Dutch villages'. The modern American doughnut or 'donut' had its origin in the serving of *oliekoeken* or *oliebollen* at the Dutch afternoon tea table, which 'was always sure to boast an enormous dish of balls of sweetened dough, fried in hog's fat, and called dough nuts, or oly koeks—a delicious kind of cake, at present scarce known in this city, excepting in genuine Dutch families'.[166]

166 Irving (1819, Vol. I, pp. 183–186). It is conceivable that the elongated breakfast pastries of deep fried dough called *iû-tsiáh-kóe* 油炸粿 [iu ˧˦ tɕɪaʔ ˧ kue ˥˧] 'oil fried pastry' in Hokkien and *jau⁴zaa³gwai³* 油炸粿 [jɐu ˨˩ tsaː ˧ kʷɐi ˧] in Cantonese might likewise have originated at this time in imitation of Dutch *oliekoeken* or *oliebollen*, of which the Hokkien and Cantonese terms appear to represent direct descriptive translations. Both doughnuts and *iû-tsiáh-kóe* represent clear improvements upon Dutch *oliebollen*, unless of course the *oliekoeken* of the 17th century were prepared with

The Dutch practice of taking afternoon tea was adopted in France. As recorded in the copious correspondence of Marie de Rabutin-Chantal, the marquise de Sévigné, the French aristocracy in the 1680s practised the French vogue of *thé de cinq heures* 'five o'clock tea'. The trend was then promptly adopted in England. In Act IV, Scene I of a comedy by Thomas Southerne, which premiered in late 1691, the gentlemen and ladies are depicted as having an afternoon tea some time after their midday 'dinner'. Their afternoon tea was taken *al fresco* in the garden of the house of Mr. Friendall, who proposes:

> 'Ladies what ſay you to the Fresko in the Garden? we'll Drink our Tea upon the Mount, and be the Envy of the Neighbourhood'.[167]

Naturally, the opportunity of taking tea in an undisturbed intimate setting would, in time, on occasion be utilised for other purposes, and by 1701 the 'abuse' of tea in the United Provinces as a guise for debaucheries of various descriptions was criticised in a morally indignant screed.[168] In England too at this time, tea features prominently in the 1707 comedy *The Lady's laſt Stake, or the Wife's Resentment* by Colley Cibber in association with improprieties and the suggestion of promiscuous infidelities. Whilst Lord Wronglove is taking tea, a letter is handed to him explaining his wife's absence.

> Something has happen'd that makes me unfit for Tea, I wou'd tell you what, but that I find 'tis the Faſhion for married People to have ſeperate Secrets.[169]

When Lady Wronglove later offers her suitor Lord George a cup of tea, he exalts:

> Tea! Thou ſoft, thou ſober, ſage, and venerable Liquid, thou innocent Pretence for bringing the Wicked of both Sexes together in a Morning; thou Female Tongue-running, Smile-ſmoothing, Heart-opening, Wink-tipping Cordial, to whoſe glorious Inſipidity I owe the happieſt Moment of my life, Let me fall proſtrate thus, and ſ-p, ſ-p, ſ-p, thus adore thee. [Kneels and ſips the Tea.][170]

The association of tea with naughty escapades was a fleeting theme at the beginning of the 18th century in both the Dutch republic and England.

In the following century, after the tea frenzy had decisively conquered Britain, afternoon tea was already well established. In describing his life in polite society at Harrowgate in 1763, Alexander Carlyle observed that '... it was the fashion for ladies to furnish tea and sugar ... The ladies gave afternoon's tea and coffee in their turns'.[171] Yet there is a robust popular myth which credits Anna Maria Russell, *née* Stanhope, the wife of

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greater skill and yielded a gastronomically more pleasing result than the *oliebollen* that today are usually produced only on special occasions. Chinese *iû-tsiáh-kóe* have ever since made a tasty breakfast accompaniment to the delicious warm tofu pudding called *dau^{6}fu^{6}faa^1* 豆腐花 [tɐu ˧ fuː ˧ faː ˥] 'tofu flower' in Cantonese and known in Hokkien as *tāu-hoe* 豆花 [taʊ ˧ hue ˥] 'tofu flower'.

167 Southerne (1692: 37).

168 Anonymous. 1701. *De gedebaucheerde en betoverde Koffy- en Thee-Weereld, behelzende een meenigte van aardige voorvallen, welke zich ſedert weinig tydts tot Amſterdam, Rotterdam, in den Haag, te Uitrecht, en de bygelegene Plaatſen, op de Koffy- en Thee-gezelſchapjes, zo onder de Getrouwden als Ongetrouwden, hebben toegedraagen, met alle de debauches en ongeregeldheden, welke onder pretext van deeze laffe Dranken worden gepleegd: Benevens een uitreekening van de Jaarlykſe ſchade, welke door dit Koffy- en Thée-gebruik, als mede door de Paſteleinen, en al de verdere Poppe kraam, daar toe behoorende, word veroorzaakt, enz.* 't Amsterdam: By Timotheus ten Hoorn, Boekverkoper in de Nes, in 't Zinnebeeld.

169 Colley Cibber. 1707. *The Lady's laſt Stake, or the Wife's Resentment. A Comedy. As is Acted at the Queen's Theatre in the Hay-Market.* London: Bernard Lintott (Act I, scene I, p. 6).

170 Cibber (1707, Act I, scene I, p. 9).

171 Alexander Carlyle. 1840. *Autobiography of the Rev. Dr. Alexander Carlyle, Minister of Inveresk* (second edition). Edinburgh and London: William Blackwood and Sons (p. 434).

FIGURE 6.41
This tea gown designed by Charles Frederick Worth in Paris appeared in the 28th of December 1895 issue of *The Queen, The Lady's Newspaper*.

Francis Russell, the 7th duke of Bedford, with having invented afternoon tea. The 7th duchess of Bedford is ostensibly supposed to have done so either some time before 1837,[172] in which year she became queen Victoria's lady of the bedchamber, or during the 1840s, either at Woodburn Abbey[173] or when the she visited John Henry Manners, the 5th duke of Rutland, at Belvoir Castle.[174] This story is repeated in various renditions in many popular books on tea. The reality was, however, not quite as grand. English afternoon tea is aptly described by the oxymoron of a 'new tradition'.

By the time of the duchess of Bedford, the Dutch bourgeois practice and French aristocratic custom of taking afternoon tea was already well established amongst the genteel classes in England along with the nibbles that generally accompanied afternoon tea. In France, tea and nibbles broke up the afternoon because the evening meal in France was taken quite late, as it was by the upper classes in England. What Anna the duchess of Bedford certainly did not do was to institute or invent afternoon tea. She was no doubt one of the more avid practitioners of this already imported Continental

172 Twining (1999: 60).
173 Henry Robin Ian Russell, 14th duke of Bedford, 14th marquess of Tavistock, 1987. *Woburn Abbey*. Norwich: Jarrold Colour Publications.
174 Assertion entered into the Wikipedia article on 'Anna Russell, duchess of Bedford' in the revision of 14h53 on the 18th of November 2011 by User 86.128.231.97, who entered the same information into the Wikipedia article on 'Belvoir Castle'.

FIGURE 6.42
The tea gown saw countless variations and became available in ever more varying renditions during the second half of the 19th century. From the gay nineties onwards, the tea gown evolved so much so that by the roaring twenties the dresses then still referred to as tea gowns had precious little in common with the early tea gowns of the mid 19th century. This fashion plate appeared in *The Season* in 1889.

custom. Taking scones with the tasty clotted cream of Devonshire at afternoon tea was originally no doubt just the local way of taking afternoon tea in Devon, but this practice has meanwhile become an iconic nibble at English afternoon tea. Any contribution by the duchess of Bedford appears to have been limited to merely aiding and abetting the transformation of the Continental practice of taking afternoon tea into a quintessentially English intemperate feast for the sweet tooth.

It has also been claimed that through her fascination with the Japanese kimono she played a role in popularising the high-necked loose indoor garment which came into fashion during this period called the tea gown.[175] Though even in this domain, her role was at best no more than marginal, for the tea gown bears little resemblance to the kimono.

175 Paul Chrystal. 2014. *Tea: A Very British Beverage*. Gloucestershire: Amberley (p. 61).

FIGURE 6.43 English afternoon tea at the Savoy, nowadays quite often served with champers here and elsewhere in London

Instead, the tea gown emerged in the mid 19th century as a natural evolution adapted from Occidental precursors, originating as a loose informal dress, made of soft fabrics and often decorated with embroidery. Tea gowns were worn whilst taking afternoon tea in the home or in the arbour and, as such, this domestic dress was distinct from formal dinner wear and from dresses worn on outings.

Since the 7th duchess of Bedford, the new English rendition of afternoon tea has been more about cakes and pastries than about tea. Nowadays anyone wishing to take afternoon tea at the Savoy, the Ritz or Claridge's, or any of the venues in London, Edinburgh, Delhi or Singapore that specialise in this most ancient and venerable of English traditions will be offered a choice of tea and then be regaled with finger sandwiches, homemade scones with clotted cream, scones with jam and an array of cakes and pastries. Today most afternoon tea venues also offer customers a little or a lot of champagne alongside their tea. English afternoon tea, though not really about tea, is a festive affair.

In London today, even Japanified versions of afternoon tea are on offer, where Japanese teas are taken along with sushi or Japanese pastries of various descriptions. In Melbourne, an inventive Chinese restaurateur offers an afternoon 'high tea' with Chinese tea and Chinese pastries and sweet dim sum delicacies stacked on top of each other in the style of the English afternoon tea pastry tower. In Chi:ang Mài, the Swedish tea monger Kenneth Rimdahl offers a new Lanna style afternoon tea with artisanal Thai teas on the basis of *assamica* cultivars and Thai delicacies, many of which contain *mî:ang* เมี่ยง paste. In its various new guises, tea remains a pivotal ingredient of this new ever evolving tea ceremony, but the novel English ritual, which is both noisy and delightful, differs conspicuously in spirit from the spiritual serenity of the Japanese tea ceremony.

FIGURE 6.44
A Chinese restaurateur in Melbourne offers an afternoon 'high tea' with Chinese tea and sweet dim sum arranged in an English afternoon tea pastry tower

Afternoon tea is not to be confused with high tea, the hearty evening meal of the working class. During the Industrial Revolution, factory labourers in England were compelled by their long working shifts to move their traditional main meal of the day from midday to the evening. The term 'high' has been interpreted as a reference to the late hour at which the tea is taken[176] or to the height of the dining table.[177] From the end of the 18th century, the evening meal of the lower orders, which was usually taken with tea, was referred to as 'high tea' or 'meat tea'. An early occurrence of the expression dating from 1787 is found in the novel *Blenheim Lodge*, where we read: 'Juft as we were at high tea, Doctor Shatford made his appearance'.[178]

In Jane Austen's unfinished novel *The Watsons*, which she abandoned writing after her father's death in January 1805, Austen referred to high tea in 1803 when she wrote: 'The entrance of the tea-things at seven o'clock was some relief'.[179] It is easy to understand why the term *high tea* is often misapplied to afternoon tea because the adjective 'high' inherently evokes the connotation of elevated and highfaluting. In fact, the afternoon tea taken by the leisure class and by members of high

176 Catherine Soanes, ed. 2002. *The Oxford Compact English Dictionary*. Oxford: Oxford University Press.
177 Chrystal (2014: 59).
178 Anonymous. 1787. *Blenheim Lodge, A Novel in Two Volumes*. London: W. Lane (Vol. II, Letter XIII, p. 13).
179 Jane Austen. 1898 [posthumous]. *Lady Susan, The Watsons, with a Memoir by her nephew J.E. Austen Leigh*. Boston: Little, Brown and Company (p. 118).

society was sometimes also referred to as 'low tea' or 'cream tea' because it was served on low coffee tables whilst those who indulged sat in comfortable low chairs.[180]

Government Greed and the Changing English Taste for Tea

Before the outbreak of the war, Charles II returned to England from Holland in May 1660 and within four months of his return he passed the First Act of Navigation, which would ultimately lead to war with Holland. At the same time, the first measure that Charles II took domestically in 1660 was to promulgate an act which levied a duty of an eightpence per gallon on brewed tea, and this tea tax rose to 16 pence by 1670.[181] In 1772, Lettsom inferred that the duty imposed on tea in 1660 indicated that by this time in England 'drinking Tea even in public coffee-houfes was not uncommon'.[182] Because of the high excise duty, the price of a pound of tea between 1652 and 1689 varied on average from fifty to sixty shillings and was therefore attainable only by the affluent.[183]

At one point it must have dawned on people that the optimal way to prepare fine tea was not to brew and barrel the tea in the morning and then to reheat the tea in the keg throughout the day, as needed, just so that a guager from the revenue department could stop by each day to inspect tea consumption and levy taxes. So instead, from 1689, loose leaf tea was taxed at from one to five shillings per pound, depending on the grade.[184]

> The tea and coffee houses were beleaguered by visits of excise officers who tried to guage how much tea and coffee was being sold and to levy duties accordingly. In 1689, however, by act of William and Mary (sess 2. chap 6) 'It being found by experience that collecting the excise duty upon liquors of Coffee, Tea, and Chocolate, was troublesome and unequal upon retailers, and required such an attendance of officers as rendered the receipt thereof very inconsiderable' … it was resolved to discontinue the levy and establish an additional custom duty of five shillings per pound.[185]

The old form of taxing tea by the amount consumed was abandoned in favour of customs duties. Yet these were high taxes on an already costly product. In the 1660s, the finest tea in England could cost as much as £6 sterling per pound, although tea more usually sold for between £3 sterling per pound for fine tea to six shillings a pound for the coarsest grade. There were twenty shillings in a pound, and, by comparison, coffee at this time sold for one to six shillings a pound, depending on the quality of the beans.[186]

Meanwhile, tea, coffee and spices formed the most important commodities in the Dutch East India Company trade. In the United Provinces, unlike in other European countries, no import restrictions on tea were in place until 1791. Every city and province in the United Provinces was free to regulate the sale of tea, coffee and chocolate in its own way. Often an *impost* or duty was locally excised on tea sellers. In Utrecht, for example, an ordinance was issued on the 26th of December 1685, specifying that dealers in coffee, tea and chocolate had to secure a licence in order to finance the municipal orphanage.

> Eerftelyk, dat voortaan niemand binnen defe Stad ende de Vryheid van dien, zal mogen exerceren de neringe van coffi, chocolate, thee of diergelyke drancken te verkoopen, 't en zy hy alvorens daar toe zal hebben verworven confent ende permiffie van de Vroedfchap, ende voor 't

180 Chrystal (2014: 57).
181 Lettsom (1772: 13–14), Milburne (1813, Vol. II, p. 529), Birdwood (1890: 26).
182 Lettsom (1772: 14).
183 Lettsom (1772: 13), A Tea Dealer (1826: 94–95).
184 Chrystal (2014: 23).
185 A Tea Dealer (1826: 93–94).
186 Ellis, Coulton and Mauger (2015: 32, 36).

ligten van dien betaalt, ten behoeve van 't Stads kinderhuys, twaalf gulden tien ſtuyvers.[187]

First of all, that henceforth nobody within the city and its jurisdiction shall be permitted to exercise the sale of coffee, chocolate, tea and such beverages without first having secured consent and authorisation from the city council, and in order to be allowed to serve these drinks first having paid twelve guilders and ten stivers for the support of the municipal children's home.

In the United Provinces, the prices people were willing to pay for tea of the highest quality were exorbitant. Before sailing to Batavia for the first time, upon Valentyn's coming from his provincial city of Dordrecht, he recorded his amazement …

wanneer ik 1684, by een Heer tot Rotterdam groene thee dronk, die 't pond 80 gulden gekoft had …[188]

when in 1684 at the house of a gentleman in Rotterdam I drank green tea that had cost 80 guilders a pound.

Many decades later, in Britain under prime minister Robert Walpole (*obtinebat* 1721–1742) customs duties were reduced to a shilling per pound, but a new excise tax of four shillings a pound was levied as tea was sold to wholesalers, until which time it was kept in bonded warehouses of the British East India Company watched over by the Excise Board.[189] This arrangement bred elaborate subterfuge and necessitated extensive and expensive policing. Smugglers from France, Sweden and Denmark but predominantly from the Netherlands brought in their wares either via Guernsey or Alderney or simply brought them on shore clandestinely anywhere along Britain's long coastline. Tea smuggling via Scotland had converted that country into a tea drinking nation by the 1760s.

Whilst England underwent a tea rage from the middle of the 17th century, tea was not yet generally known in either Scotland or Ireland at the close of the 17th century. Dufour reported that tea was already *en grande vogue* in England in 1685 with over three thousand shops selling tea in London alone.[190] A London tea merchant recorded an account of how in 1685 …

… the widow of the unfortunate Duke of Monmouth sent a pound of Tea to some of her relations in Scotland; but as the necessary directions for use did not accompany the present, it was boiled—the liquor thrown away—and the leaves served at table as a vegetable. It is needless to add, that in this way the rarity was not very highly esteemed; although no doubt the votaries of fashion, as it was rare and expensive, allowed fancy to give it a flavour, unless human nature has much altered since.[191]

This burlesque tea party reportedly took place in some part of Scotland even though the duchess of York, Mary Beatrice of Modena, wife of king James II, had already drunk tea at Holyrood Palace in

187 Johan van de Water. 1729. *Groot Placaatboek vervattende alle de Placaten, Ordonantien en Edicten, dere Edele Mogende Heeren Staten 's Lands van Utrecht; Mitsgaders van de Ed. Groot Achtb. Heeren Borgemeesteren en Vroedschap der Stad Utrecht tot het jaar 1728 ingefloten* (*Derde Deel*). te Utrecht: By Jacob van Poolsum (Vierde Tytel, Tweede Deel, blz. 481).

188 François Valentyn. 1726. *Keurlyke Beschryving van Choromandel, Pegu, Arrakan, Bengale, Mocha, Van 't Nederlandſch Comptoir in Persien; en eenige fraaje Zaaken van Persepolis overblyfzelen. Een nette Beschryving van Malakka, 't Nederlands Comptoir op 't Eiland Sumatra, mitsgaders een wydluftige Landbeschryving van 't Eyland Ceylon, En een Verhaal van des zelfs Keizeren, en Zaaken, van ouds hier voorgevallen; Als ook van 't Nederlands Comptoir op de Kuft van Malabar, en van onzen Handel in Japan, En eindelyk een Befchryving van Kaap der Goede Hoope, en 't Eyland Mauritius, Met de Zaaken tot alle de voornoemde Ryken en Landen behoorende.* Dordrecht: Joannes van Braam, and Amsterdam: Gerard onder de Linden (*Vyfde Deel*, blz. 190).

189 Ellis, Coulton and Mauger (2015: 164).

190 Dufour (1685: 211).

191 A Tea Dealer (1826: 104).

Edinburgh in 1680. Dufour observed that tea was just as popular in Holland, France and Italy as it was in England, but that tea was almost unknown in Spain and Germany.

> … mais peu ou point en Efpagne & en Alemagne, où les Peuples ne font pas fi curieux des nouveautés, & fe tiennent à leurs anciens ufages, Les Alemmands au vin & à la biere, & les Efpagnols au Chocolate & au vin: le Thé ni le Café n'étant pas beaucoup connus parmi eux.[192]

> Tea is known little or not at all in Spain and in Germany, where the people are not that curious about new things and hold to their old ways, the Germans to wine and beer, and the Spaniards to chocolate and wine. Neither tea nor coffee is very well known amongst them.

The unfamiliarity with tea in the German hinterland at this time is also in evidence in written sources of the period. In 1668 in Nürnberg, Erasmus Franciscus, a voracious reader of colonial sources, faithfully reproduced the Japanese form as *'chaa'* and the Chinese forms as *'cha'* and *'the'* and related accurately that the drink was slurped hot and prepared from a herb infused in hot water. Yet Franciscus expressed his complete unfamiliarity with the commodity itself by saying that the accounts in colonial sources led him to imagine that the beverage must look just like bean soup,[193] evidently misled by a *tournure de phrase* used by Nieuhof in his account of the embassy of the Dutch East India Company to the Chinese emperor in 1655.[194]

What the average Englishman, if there ever were such a person, did and did not yet know about tea is quite clear in John Ovington's account of his sojourn in the city of Surat on the coast of Gujarat, where he served as chaplain from 1690 until 1693. Surat was used by the Portuguese as a trading post after their first attack on the city in 1512 and their forced entrance into the city in 1530. The Dutch started trading at Surat from 1602 and the English from 1608. Surat became a directorate of the Dutch East India Company in 1616, which it remained until the Kew Letters of *stadthouder* Willem V in 1795.

In 1689, Ovington sailed to India on the English East India Company ship *Benjamin* and spent two and a half years in Surat, where he made the following observations:

> The *Bannians* [Indian merchants][195] are not reftrain'd from the liberal Draughts of Tea and Coffee, to revive their wafted Spirits, any part of the Day … Coffee is said to be good for Cleanfing the Blood, for helping Digeftion, and quickening the Spirits.
>
> Tea likewife is a common Drink with all the Inhabitants of *India*, as well *Europeans* as Natives; and by the *Dutch* is ufed as fuch a ftanding Entertainment, that the Tea-Pot's feldom off the Fire, or unimploy'd. This hot Liquor it may be fuppos'd might not feem fo proper and agreeable to fo hot an Air, and yet we find is very agreeable to the Habits of our Bodies … Tea, with fome hot Spice intermixt and boiled in the Water, has the Repute of prevailing againft the Headach, Gravel, and Griping in the Guts, and 'tis generally drunk in *India*, either with Sugar-Candy, or, by the more curious, with fmall Conferv'd Lemons … The frequent ufe of this Innocent Tea, and the perpetual perfpiration caus'd by the Heat, which is augmented by this Liquor, are the reafon why the Gout and Stone, Agues,

192 Dufour (1685: 212).

193 Erasmus Franciscus. 1668. Oſt= und Weſt=Indiſcher wie auch Sineſiſcher Luſt= und Stats=Garten, Mit einem Vorgeſpräch von mancherley luſtigen Discurſen. Nůrnberg: In Verlegung Johann Andreæ Endters und Wolfgang deß Jůngern Sel. Erben (pp. 286–292).

194 Nieuhof (1665, Vol. I, blz. 46).

195 The English word *banyan* is taken from Portuguese *baniano*, which in turn is taken from the Gujarati વાણિયા *vāṇiyā* 'trading caste'. The name 'banyan' was subsequently transferred metonymically to the tree under which the merchants were often seen to conduct their business and so became the English name for the tree species *Ficus benghalensis*.

> Rheumatifms and Catarhs are rarely heard of in thefe parts ... *The Chinefe*, among whom the Tea grows, take abundance of this Drink before their Meals, and are generally very plump and in very good likeing.
>
> Our *Englifh* Prefident enquir'd much for the Flower of the Tea, among thofe who would have been Converfant in *China*, but could never obtain a fight of any; and it feems very doubtful whether that Shrub bears any Flowers at all upon it. For a *Chinefe Madarine*, who arriv'd at *Suratt* in the quality of an Envoy or *Limpo*, brought with him feveral kinds of Tea, but no Flower; fome of it was fo valuable in *China*, that a fingle Catte [catty = approx. 600 g] of it was reputed a noble Prefent for the chief Minifters, and it was very rarely to be found, however he brought with him a Tafte of it for our Prefident, among feveral other kinds, wherein he gave him a Morning Entertainment.[196]

Ovington's detailed report of Surat secured him preferment. Upon his return to England, he became the king's chaplain and was offered the living at St. Margaret's in Greenwich. In his report, Ovington painted the picture of the Dutchman in the Indies whose teapot was seldom off the fire. His book also strongly evinces English curiosity about tea.

In 1699, Ovington brought out his *Essay on the Nature and Qualities of Tea*. This source echoed only a fraction of the information on tea that had already been belaboured in earlier Dutch sources, but Ovington's book rendered the service of making this information on tea available to an English reading audience.[197] Even Ovington's 1699 frontispiece illustration of 'The Plant in Leaf, Flower & Fruit, of Tea' merely represented a redrawing—with just a few minor rearrangements of the items—of the botanical illustration of tea published by Jacobus Breyne in 1678, which in turn was based on the even older botanical drawing that Willem ten Rhijne had sent from Japan. All the purported benefits of tea extolled in Ovington's essay were already listed in the broadsheet that Thomas Garway had printed in 1658, advertising the first public sale of tea in Great Britain at his store in Exchange Alley. Ovington dedicated his essay on tea to Lady Henrietta Butler of Grantham, the wife and cousin of Hendrick van Nassau van Ouwerkerk. This relative of the Dutch *stadthouder* had married his own first cousin in 1697 and was made the 1st earl of Grantham by king William III in 1698.

Taxation and smuggling both contributed to a change in English tastes. Not just the heavy taxation of an already costly commodity, but the disproportionately heavier tax on the less expensive Bohea tea distorted the market by bringing black tea and the more exclusive fine green teas into a more proximal price range, a measure which no doubt influenced consumer psychology. At the same time, smuggling made more tea of better quality available at a fairer price, and the price difference was most palpable in the relatively more affordable black teas. The widely articulated prescription that black tea could or, according to Nahum Tate, should be consumed with sugar, whilst sugar was understood to spoil the refined taste and tender fragrance of green tea, no doubt also strongly favoured black tea consumption in a nation with a notorious sweet tooth.

Another factor contributing to this shift in taste away from the more delicate green teas, which had initially enthralled the Dutch and French palates, to the more resilient fermented Bohea and Congou teas ultimately favoured in England was no doubt the fact that many months of travel by sea as cargo on board of wooden ships that had to cross the equator twice in order to make their way to Europe wrought greater damage to the green teas than to the more oxidised varieties of tea. Even so, the Bohea tea which was being increasingly consumed in Britain was still nothing like English style black tea, which at this time had not yet been inven-

196 John Ovington. 1696. *A Voyage to Suratt in the Year 1689 Giving a large Account of that City and its Inhabitants and of the* Englifh *Factory there*. London: Jacob Tonfon at the Judges Head in Fleet-ftreet (pp. 305–308).

197 John Ovington. 1699. *An Essay upon the Nature and Qualities of Tea*. London: R. Roberts.

FIGURE 6.45
The tea plant in leaf, flower and fruit as depicted in the frontispiece of Ovington (1699)
COURTESY OF THE BEINECKE RARE BOOK AND MANUSCRIPT LIBRARY OF YALE UNIVERSITY

ted. Whilst the Dutch knew that tea had to be consumed as fresh as possible and not to be kept for too long, once the British East India Company began to trade in tea, Lettsom reported 'that the Eaft-India company have generally in their warehoufes a fupply for three years'.[198]

198 Lettsom (1772: 14).

The less expensive Bohea tea was taxed disproportionately more heavily than the more expensive and finer green teas. Legally taxed tea was significantly more expensive than smuggled tea, and the price discrepancy was largest between Dutch Bohea and taxed British Bohea. The inhabitants of English coastal towns, who benefitted from the free trade in tea, often sided with smugglers against

government taxmen and excise officers. The Dutch were able to supply tea of better quality and of higher grade at better prices. Especially the high-grade smuggled black Congou tea was available at better prices than the heavily taxed Bohea. As a result, whereas black tea consumed in Britain in the first half of the 18th century was overwhelmingly Bohea, the most consumed black tea in Britain in the second half of the 18th century became Congou.[199]

Early Types of Tea Imported to Europe

In one of his hefty volumes on the East Indies, after relating the various Dutch démarches to the Chinese imperial court since the embassy of Pieter van Hoorn in 1666, Valentyn provided 'a report about different types of tea now known, and related matters'.[200] Valentyn lived in the Dutch East Indies from 1685 to 1695 and then again from 1705 to 1714. He enumerated the following eight main types of tea being traded via Batavia, first listing four types of green tea and then four types of Bohea tea.

1. De witte Keizers- of Bing-Thee, zoo de Tsjineezen die noemen, die anders zoo wel deze als de Songlo-Thee, de witte en ook wel de Groene Thee noemen, en dat om die beide van de Boey-Thee te onderſcheiden.
2. De geelagtige Keizers-Thee of Thee-Gaey.
3. De lichte Groene of Thee-Songlo met 't langwerpige blad
4. De donkere groene, of Thee-Songlo met 't kleen blad.
5. De gemeene of donkere bruyne Thee-boey,
6. De Thee-boey Congo, of de licht-bruynroode.
7. De Thee-boey-Pegò of de geelagtige.
8. De Roſmaryn Thee-boey, die ongetrokken grys van couleur en by na als dorre Roſmaryn is.[201]

1. The white imperial tea or Bing tea, as the Chinese call it, which, just like Songlo tea, is referred to as either white or as green tea, and which must both be distinguished from Bohea tea.
2. The yellowish imperial tea or Gaey tea.
3. The light green Songlo tea with an elongated leaf
4. The dark green Songlo tea with a small leaf.
5. The common or dark brown Bohea tea,
6. The Congo variety of Bohea tea, or the light brown red one.
7. The Pekoe variety of Bohea tea, or the yellowish one.
8. The Bohea tea called Rosemary tea, which prior to being infused is grey in colour and almost resembles dried rosemary.

The tea known to tea traders at Batavia at this time under the name *Bing-Thee* (*anders de Keizers-Thee genaamt*) 'Bing tea (otherwise called emperor's tea)' was evidently what in Hokkien is referred to as *bîng-tê* 明茶 [biŋ ˧˥ te ˧˥] 'bright tea', a traditional green imperial tribute tea from the province of Zhèjiāng. In Mandarin, the name of this tea is pronounced *míngchá*, but the Chinese spoken in the early maritime tea trade was the economically important Hokkien.[202] Valentyn described the *bîng-tê* 明茶 or *Keizers-Thee* 'imperial tea' as *de bloem of bloeſſem der Thee* 'the flower or blossom of the tea', which he described as white and as sometimes consisting of large whole leaves.

He distinguished a second separate subclass of this imperial green tea, which he called *Keizers-Thee-Gaey* 'the imperial Gaey tea', which he char-

199 Ellis, Coulton and Mauger (2015: 168–169, 177–178).

200 'Bericht over verſcheide zoorten van Thee nu bekend, en 't verdere daar toe behoorende', (Valentyn 1726, *Derde Boek*, blz. 13–19).

201 Valentyn (1726, *Derde Boek*, blz. 17).

202 The imperial green or white tea *bîng-tê* 明茶 should therefore not to be confused with imperial tribute tea in the form of discus-shaped tea bricks, called *bǐngchá* 餅茶 in the Mandarin dialect of Chinese spoken in northern China.

acterised as *platagtig en geelverwig van blad* ‘with flattish leaves of a yellowish hue’.[203] From this description, this second type of green tea would appear to have been a fine pan-fried tea similar perhaps to Dragon Well, and Valentyn’s ‘Gaey’ might have been an attempt to render Hokkien *gê* 芽 [ge ˨˦] ‘buds, tips, sprouts’. Although we cannot be certain, perhaps what Valentyn heard was *bîng-tê-gê* 明茶芽 [biŋ ˨˦ te ˨˦ ge ˨˦] ‘bright tea buds’. The impression derived from a study of the trade records suggests that the import of *bîng-tê* 明茶 declined around the middle of the 18th century, either because this delicate and expensive variety faded in popularity in Europe for whatever reason, or perhaps because this variety did not travel well or ceased to be as readily available.

The next two teas listed by Valentyn are what he calls *Songlo-Thee* or *Thee-Songlo*. The name Songlo reflects Hokkien *song-lô* 鬆羅 [sɔŋ ˥ lo ˨˦], the proper name of the Song-lô 鬆羅山 mountain (Mandarin: *sōngluó*) in Ānhuī 安徽 province, south of the Huángshān 黃山 Yellow Mountains. The Song-lô area is famous for its tea gardens and exquisite green teas. Like the *Gaey* tea described by Valentyn, the Songlo teas were the first exported pan-fried green teas. The Songlo tea came in a lighter variety with a long leaf and a darker variety with a round leaf. Valentyn described that this tea was also used as a basis for making perfumed or flavoured teas with a variety of added fruit and floral flavours.

Bohea was the generic name for any fermented or semi-fermented tea from the *bú-î* 武夷 [bu ˥˧ i ˨˦] Bohea mountains (Mandarin: *wǔyí*). The colour of the Bohea tea sold to foreigners was described by Valentyn as being brown in colour and having a special fragrance all its own, quite distinct from the aroma of green tea or white tea.

> De Thee-Boey, die bruin van verw is, heeft ook een geheel byzondere lucht op zich zelven, dan de Keizers- of de Groene Thee.
>
> Zy is niet alleen anders van bladen, maar ook anders van verw en lucht, welk laatſte ’er door konſt aangemaakt werd.
>
> … Behalven dat ook de Thee-boey-bladen veel dikker, als die van de Keizers, of van de Songlo-Thee, zyn.[204]

> Bohea tea, which is brown in colour, also has a special fragrance of its own, quite distinct from that of imperial bright tea or of green tea.
>
> Not only is this tea different of leaf, but also different in colour and fragrance, the latter being attained through craftsmanship.
>
> … Other than that, Bohea tea leaves are thicker than those of the imperial white tea or the Songlo tea.

Only rarely were the lighter and more richly aromatic Bohea teas sold to foreigners. Valentyn reported that the occasional batch of *witte Thee-Boey bladen* ‘white Bohea tea leaves’ that reached Batavia would be sold quite dearly. One fragrant white tea from the Bohea mountains at the time went by the name of ‘Djentfifim’ and fetched rather high prices in the Dutch East Indies. In 1712, a catty (*jīn* 斤), which is about 600 grammes, of this tea sold for 5 *Ryxdaalders*, whereas a catty of the very best tea would otherwise normally cost 1½ *Ryxdaalder*.

Congo or *Congou* was a fine tea produced from *’t eerſte uitbotzel der takjens* ‘the first buds of the twigs’ and named *kong-hu* 工夫 [kɔŋ ˥ hu ˥] in Hokkien. This name is the very same word as the name for the martial art of kungfu, taken from the Mandarin pronunciation *gōngfū*. The word denotes ‘skill’ and constitutes a reference to the craftsmanship required to produce this grade of tea. Valentyn reported that Congo was made from the first or second flush. According to Valentyn, Congo represented the best variety of the four main types of Bohea tea, even though he acknowledged that Pekoe was a finer category of tea. His reason was that Congo nearly rivalled Pekoe in fra-

203 Valentyn (1726, *Derde Boek*, blz. 14, 16).

204 Valentyn (1726, *Derde Boek*, blz. 16–17).

grance, whilst Congo kept longer and was robust in flavour. Chinese tea traders distinguished many grades of quality within this genre, and some of these had larger leaves.

Valentyn described *Pekoe* or *Pegò* as being made from *'t eerſt uitbottend blad* 'the first budding tips' of the tea. This type of Bohea tea was more delicate than Congo and the leaves still had white down on them. In contrast to the light reddish brown colour of Congo, Valentyn describes Pekoe as *gryſe Thee* 'grey tea' and sometimes as *geelagtig* 'yellowish'.

> De bladen der Thee-boey Pegò zyn niet donker bruyn, gelyk de gemeene Thee-boey, of gelyk die van de Congo-Thee, maar grys-geel, en vol witte ſteelkens. Ook zyn de blaadjens zeer langwerpig, fyn en zoo dun, als of het ſtukjens grof garen waren[205]

> The leaves of the Pekoe variety of Bohea tea are not dark brown like the common variety of Bohea, nor like those of Congo tea, but rather grey-yellow and covered with tiny white filaments. Also the leaves are quite elongated, fine and so thin that they resemble bits of rough yarn.

Valentyn reported that this tea was harvested at the time of the Chinese new year and at two other times of the year, each separated by two months.[206] The word *Pekoe* is from the Hokkien *pé̍k-hô* 白毫 [pɪk ˦ ho ˨˦] 'white fuzz' and actually denotes the fine white hairs on the young buds of the tea.[207]

As eighth in his list of eight, Valentyn lists a rare type of highly fragrant Bohea, one pound of which fetched 50 guilders in 1714. This tea got the Dutch name *Roſmaryn-Thee* 'rosemary tea' because the appearance of its leaves resembled dried rosemary,[208] which suggests that this may have been a variety of green tea known as sparrow's tongue (*quèshé* 雀舌), made only from the budding tips. More usually, the dark lower-quality oolongs were furnished by Chinese tea brokers to Dutch traders, whereas the more fragrant oolongs were retained primarily for the domestic Chinese market.

Finally, although not enumerated in his list of eight, another type of tea is discussed by Valentyn under the name *Tongge*, from Hokkien *tūn-khe* 屯溪 [tun ˧˩ kʰe ˦] 'village stream', the name of a place in Ānhuī 安徽 province. Valentyn writes about this tea:

> De Thee Tongge zou het derde a vierde blad zyn; dog ook geen jaar konnen duuren, waarom zy ook niet verre kan vervoerd werden.[209]

> The Twankay tea is supposedly the third or fourth pick, and cannot be kept for more than a year, which is why it is not transported over long distances.

Valentyn does not devote much ink to this particular variety of tea, but this inferior grade of green tea continues to feature in later records of both the Dutch and the English East India Company. After the middle of the 18th century, this name also occurs in Dutch sources as *Thunkaij* and in English as *Twankay*, evidently under influence of Cantonese *tyun⁴kai¹* 屯溪 [tʰyːn ˨˩ kʰɐi ˥].[210]

The earliest types of Chinese teas mentioned by Valentyn, and occurring by name in early Dutch and English sources, are listed in the table entitled 'Types of tea traded in the 17th century and their Hokkien names', alongside their original Chinese names in the Hokkien pronunciation as used in the maritime tea trade.

An early English source which goes beyond the simple dichotomy between green and Bohea tea is *Panacea: A Poem Upon Tea in Two Cantos* written by

205 Valentyn (1726, *Derde Boek*, blz. 17).

206 Valentyn (1726, *Derde Boek*, blz. 13, 16).

207 From the middle of the 18th century, Cantonese *baak⁶-hou⁴* 白毫 [paːk ˧ hou ˨˩] may have acted to reinforce this loan word in Dutch and in English (cf. Mandarin *báiháo*).

208 Valentyn (1726, *Derde Boek*, blz. 14).

209 Valentyn (1726, *Derde Boek*, blz. 13).

210 cf. Mandarin *túnqī*.

Types of tea traded in the 17th century and their Hokkien names

Chinese	Dutch	English
bîng-tê 明茶	Bing-Thee, Keizers-Thee	Imperial Tea, Keifar Tea
song-lô 鬆羅	Songlo-Thee	Sinlo, Sumlo, Singlo, Sunloe
bú-î 武夷	Bohea, Bohe, Boey	Bohea, Bohe
kong-hu 工夫	Congou, Congo	Congou
pe̍k-hô 白毫	Pekoe, Pegò, Pecco	Pekoe
tūn-khe 屯溪	Tongge, Thunkaij	Twankay

Nahum Tate, who had been appointed poet laureate in 1692 in recognition of his verse. This work was first published in 1700 and then in an expanded edition in 1702, in which the afterword entitled 'An Account of the Nature and Virtues of Tea: With Directions in the Use of It for Health' enumerated and commented upon different types of tea then available on the English market.

> The firft is called *Sinlo*, or *Sumlo*, a Hearty, Strong Tea, and will bear change of Water feveral times.
>
> The fecond fort is called, *Imperial*, or *Keifar Tea*, of a finer Flavour, but fo thin and light a Leaf, that it muft be put in Weight for Weight, and not Meafure for Meafure with the Other.
>
> Thefe two forts are of a Green or Greyifh Colour, and drink admirably well mixt together.
>
> The fineft Tea, in each fort, yields the fineft Liquor, both for Complexion and Relifh; nor is the Courfesft fort without its particular Benefits, as being the moft Digeftive and beft for Emetick Ufe.
>
> But there is a Third and Different Kind, call'd The *Bohe* Tea. This, befides fome Qualities which it has in Common with the two former, has pecular Virtues of its Own.
>
> The Green Tea's by reafon of their Greater Roughnefs, are (generally fpeaking) moft proper for Younger People, and ftronger Conftitutions, whereas this of *Bohe*, being more Unctuous and Balfamick, is certainly the Referve of Nature for Languifhing and Confumptive Perfons, and Bodies Emaciated with Grief, Abftinence, Fatigue, Study, or Sicknefs *&c.* And (without Exception) for all People of Declining Years, being found by Daily Experience (both for its Sanative and Nutrative Virtue) the beft Reftorative in the World.[211]

The explications provided by Tate demonstrate that in England people at this time still knew very well not to scald green tea with boiling water.

It was also known in England that sweetening green tea spoilt the taste. However, Tate described how Bohea tea could, in effect, be manhandled and even reboiled and was best sweetened.

> Your Single and Imperial Teas, are to be made by Infufion only; the leaft Scalding of them being prejudicial both to their Taft and Colour.
>
> The *Bohe* will bear Heating and Boiling over again and ftill drink well.
>
> The Natural Way of Drinking Tea, (Efpecially the Green forts) is certainly without Sugar, and too much Dulcify'd, their Medicinal Virtue is taken off …
>
> But with your *Bohe* Tea, more Sugar is not only Agreeable but Requifite.[212]

What could be more appealing? A sugary drink that required little skill in preparation and handling, was less expensive despite the disproportionate taxes on Bohea tea, and which acted as a pan-

211 Tate (1702: 42–43).
212 Tate (1702: 44).

Types of tea traded in the 18th century and their Cantonese names

Chinese	Dutch[a]	English
hei^{1}ceon^{1} 熙春	Hijsant, Heyfan, Hi-tschoen	Hyson
hei^{1}ceon^{1}pei^{4} 熙春皮	Hijsant schin, Heyfan Schin	Hyson Skin
jyu^{5}cin^{4} 雨前	Uxim, Uutsjien	Young Hyson
zyu^{1}laan^{4} 珠蘭	Joosjes, Buskruit	Choolan, Choo, Gunpowder
on^{1}kai^{1} 安溪	Ankoi, Ankay	Ankay
wu^{1}lung^{4} 烏龍	Oelong	Oolong
baau^{1}zung^{2} 包種	Pouchon, Pouchong	Padre Tea, Paou-chung
siu^{2}zung^{2} 小種	Souchong, Saotchon	Souchong
soeng^{1}zai^{3} 雙製	Souchi	Caper, Schwang-che

a *De Maandelykse Nederlandsche Mercurius*, 16 (van January tot Juny 1764). Amsterdam: Bernardus Mourik. (blz. 38, 39, 167); 'Staat van den Handel in *China*, onder Nederlandsche vlag, te *Canton* en *Macao* 1846; in 16 schepen, metende 2783 lasten', first published in the *Staats-Courant* of the 28th of June 1847 and then reproduced in G.A. Tindal en Jacob Swart. 1847. *Verhandelingen en Berigten betrekkelijk het Zeewezen en de Zeevaartkunde* (Nieuwe Volgorde, Zevende Deel). Amsterdam: Weduwe G. Hulst van Keulen (blz. 441).

acea and served as the 'beft Reftorative in the World'. Valentyn reported that in the year 1721 four million pounds of tea were shipped from the East Indies to Holland, France, England and Ostend.[213]

The adoption of sugary dark tea by the lower classes in Britain was yet another step in the transformation of the beverage into a new type of English style drink. In the course of the 18th century, tea became the drink of the common man, and the main port of the tea trade would shift from Batavia, where tea was shipped from Fukien via Formosa, to the new tea port of Canton. New types of tea would come to be distinguished by European tea merchants and tea connoisseurs. These teas got their names from the European attempts to pronounce the Cantonese names, as listed in the table entitled 'Types of tea traded in the 18th century and their Cantonese names'.

Hyson is the Western pronunciation of Cantonese *hei^{1}ceon^{1}* 熙春 [hei̯ ˥ tsʰɵn ˥] meaning 'flourishing spring',[214] a green tea manufactured from the early flushes. As opposed to proper Hyson, the dregs of the production process and the produce of late flushes were termed *hei^{1}ceon^{1}pei^{4}* 熙春皮 [hei̯ ˥ tsʰɵn ˥ pʰei̯ ˩],[215] in which the morpheme *pei^{4}* 皮 denotes 'leather, skin'. The English translation came out literally as 'Hyson Skin', and the Dutch term *Hijsant schin* in the Cantonese tea trade at the end of the 18th century appears to be taken from the English, which is actually rather emblematic because this shift in the direction of borrowing symbolically marks the change in relative fortunes in the tea trade by the end of the 18th century. This story is told in Chapter Eight after an interlude on coffee and chocolate. Considerably less costly than Hyson, Hyson Skin cost slightly more than half the price of proper Hyson. Yet Hyson Skin was still more expensive than all other types of tea, except for *Joosjes* or gunpowder tea. Young Hyson was the earliest spring pick of Hyson, referred to in Cantonese as *jyu^{5}cin^{4}* 雨前 [jyː ˩˧ tsʰiːn ˩] 'before the rains', whence the name *Uxim* or *Uutsjien* in the Dutch trading records.

Green gunpowder tea was sometimes called pearl tea, in emulation of the Cantonese *zyu^{1}laan^{4}*

213 Valentyn (1726, *Derde Boek*, blz. 18).
214 cf. Mandarin *xīchūn*.
215 cf. Mandarain *xīchūnpí*.

珠蘭 [tsyː ˥ laːn ˩˨] 'elegant pearls'. Green gunpowder tea is also listed in English trade records as Choo or Choolan. The Dutch had their own special name *Joosjes* for these little green pearls of gunpowder tea, which they shipped especially to Morocco. The name *joosjes* has an interesting etymology. The surgeon Wouter Schouten (1638–1704) reported that some malevolent deity whom Hokkien families at Batavia propitiated with offerings and appeased with incense at the household altars in their homes was called *joosje*. Naturally, as a pious Dutch Reformed Protestant whose appreciation of the traditional Hokkien Chinese belief system was no doubt a trifle biased, Schouten equated *joosje* with the devil.

> Maar de duivel, dien zij gemeenlijk *joosje* noemen, is, zeggen zij, een magtig en geweldig vorſt der waereld, die de menſchen met duizenden van plaagen kan bezoeken, en gantſchelijk verderven.[216]

> But the devil, whom they generally call *joosje*, is, they say, a mighty and formidable ruler of the world, who can visit thousands of plagues upon people and utterly ruin them.

In 1798, Samuel Hull Wilcocke derived the English word *joss*, in the expressions *joss house* and *joss sticks*, from Dutch *joosjes*.

> The images which the Chineſe worship, are called *jooſtje* by the Dutch, and *joſs* by the Engliſh ſeamen. The latter is evidently a corruption of the former, which being the Dutch nickname for the devil, was probably given to theſe idols by the Dutch who firſt ſaw them, either from their hideous appearance, or from the principle that all idolatry is demonolatry.[217]

Wilcocke gives the Dutch form *Joosje* as *Joostje*, which is a diminutive of the Dutch man's proper name *Joost*. This is no mistake on his part, but rather accurately reflects the folk etymology which had by this time changed the Hokkien word to become homonymous with the Dutch proper name *Joost*, and had consequently given rise to the expression *Joost mag het weten*, which roughly means 'only Joost knows'. Rather than referring to the devil, the English say 'God only knows'.

There is an old etymological hypothesis that proposes to derive the Dutch word *joosje* from Portuguese *deus* 'god', and, if this particular hypothesis were to be correct, then the Dutch devil in this colloquial expression would, in a Faustian twist, be identical, etymologically speaking, to God. In 1889, the Dutch linguist Pieter Johannes Veth rejected the Portuguese etymology and instead proposed that the word *joosje* derived for the Hokkien word for tabernacle or household altar, for which he provided a spurious Chinese form.[218] Veth's proposal strikes me as less tenable than the hypothetical Portuguese etymology which he sought to refute. My own proposal is that Dutch *joosje* instead derives from Hokkien *iáu-chiaⁿ* 妖精 [iaʊ ˥˧ tɕɪã ˧] 'demon, evil spirit, devil', which provides a snug semantic and phonetic fit for the original Hokkien source word for the Dutch borrowing.

Whatever its ultimate provenance, the word *Joosje* used to be employed by Dutch speakers to refer to any Chinese deity, especially one portrayed on horseback, whence the Dutch expression *Joosje te paard* 'Joosje on horseback', depictions of which can still be found on collector's pieces of blue on white *kraak* porcelain. Less expensive and once quite common were tiny statues of Chinese deit-

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216 Wouter Schouten. 1780. *Reistogt naar en door Oostïndiën, waar in de Voornaamste Landen, Steden, Eilanden, Bergen, Rivieren, enz; de Godsdienst, Wetten, Zeden, Gewoonten, en Kleding der Bijzondere Volken; en het Merkwaerdige in de Dieren, Planten en Gewassen der Indische Gewesten Nauwkeurig worden beschreven*. te Amsteldam: M. Schalkekamp (vol. 1, p. 23).

217 Samuel Hull Wilcocke. 1798. *Voyages to the East-Indies by the late John Splinter Stavorinus, Esq., Rear Admiral in the Service of the States-General, Tranſlated from the Original Dutch by Samuel Hull Wilcocke* (two volumes). London: G.G. and J. Robertson (Vol. 1, p. 173).

218 Veth (1889: 205–206).

FIGURE 6.46
The motif *Joosje te paard* on a piece of *kraak* porcelain from the reign of Kāngxī 康熙 (1661–1722)
COURTESY OF GALLEREASE, AMSTERDAM

ies in green porcelain, which Dutchmen in the East likewise used to refer to as *Joosjes*. In the 18th century, this name for the tiny green porcelain statuettes was applied to the green pearls of gunpowder tea.[219]

Ankay tea was a low-quality black keemun from *On^{1}kai^1* 安溪 [ɔːn ˥ kɐi̯ ˥][220] in Fukien province. This black tea was available cheaply to European merchants. A delicate tea then called *Paou-chung* in English and *Pouchon* in Dutch is intermediate between a green tea and an oolong, and its Western names derive from Cantonese *baau^{1}zung^2* 包種茶 [paːu̯ ˥ tsoŋ ˧˥]. To tea traders in Canton, this tea was also known as *Padre Tea*, and the tea is mentioned by Morrison in 1819[221] and Ball in 1848.[222] The pronunciation of this type of tea in Hokkien is *pau-tsióng-tê* 包種茶 [pau ˥ tɕiɔŋ ˥˧ te ˧˥], and the tea is most famously grown today on Formosa. Other tea varieties that were known to tea traders in Canton, listed by Morrison, include *Campoi*, in Dutch records sometimes list as *Campoë*, from Cantonese *gaang^{3}bui^6* 揀焙 [kaːŋ ˧ puːi̯ ˧] 'baked', *Souchong* from Cantonese *siu^{2}zung^2* 小種 [siːu̯ ˧˥ tsoŋ ˧˥] 'small sort', and Caper or *Souchi* tea from Cantonese *soeng^{1}zai^3* 雙製 [sœːŋ ˥ tsɐi̯ ˧] 'doubly made'.

Throughout the Cantonese period, the least costly grade of common Bohea tea remained in somewhat higher demand than the other variet-

219 Guido Geerts en Hans Heestermans. 1984. *van Dale Groot Woordenboek der Nederlandse Taal* (elfde, herziene druk) Utrecht: van Dale Lexicografie (deel 2, blz. 1245).
220 cf. Mandarin *Ānxī*.
221 Robert Morrison. 1819. *A Dictionary of the Chinese Language in Three Parts*. Macao: Printed at the Honorable East India Company's Press (Part II, Vol. I, p. 4).
222 Ball (1848: 58).

ies, but the proportion of Bohea to green tea in the orders of the Dutch East India Company at Canton began gradually to shift in favour of Bohea and Congou tea.[223] Some types of tea were purchased very seldom, such as *Uxim* and *Joosjes*. The limited purchases of *Joosjes* may have had to do with the high price, though a very small amount of tightly rolled gunpowder pearls unfurl to yield quite a lot of tea. Furthermore, much of the Joosjes was no doubt destined for Morocco. Based on the figures adduced by Liú for tea prices at the company auctions by the chambers of the Dutch East India Company between the years 1777 and 1780, the average prices in *stuyvers* or stivers per pound can be calculated for the various types of tea as follows: *Joosjes* or gunpowder Tea 112¼ stivers, Hyson 88½, Hyson Skin 49½, Pekoe 46, Souchong 43, Twankay 39¾, Songlo 36¾, Congou 26 and Bohea 17¾ stivers.[224] This list of prices provides an informative picture of the relative values of the principal types of tea in the Company trade.

In 1785, in London a 'Friend to the Public, who has been many Years in the Eaft India Company's Service' published *The Tea Purchafer's Guide*. The author chose to remain anonymous, but one suspects the hand of Richard Twining because of the striking similarity of the description of the 'Method of making *Smouch* with Afh Tree leaves', copperas and sheep's dung with the account in Twining's 1784 pamphlet.[225] With regard to Twining's 1784 booklet on the tea trade, an anonymous encyclopaedist wrote:

> The numerous instances in 1817 and 1818, of dealers being convicted of selling spurious tea, show that the process of adulteration is carried on to a great extent in this country. Mr Twining, a considerable tea dealer in London, published a pamphlet some years ago in which he has exposed this infamous traffic. The information (he says) was obtained from a gentleman who had made very accurate inquiries into this subject.
>
> The smouch for mixing with black tea is made of the leaves of the ash. When gathered, they are first dried in the sun, then baked: they are next put upon a floor, and trod upon until the leaves are small, then sifted and steeped in copperas with sheep's dung; after which, being dried on a floor, they are fit for use. There is also another mode: When the leaves are gathered, they are boiled in a copper with copperas and sheep's dung; when the liquor is strained off, they are baked and trod upon, until the leaves are small, after which they are fit for use. The quantity manufactured at a small village, and within eight or ten miles thereof, cannot be ascertained, but is supposed to be about 20 tons in a year. One man acknowledges to have made 600 weight in every week for six months together.[226]

Twining's succinct booklet contained much valuable information on the various types of tea on the market at the time.

The Tea Purchafer's Guide was plagiarised in 1820 by the London Genuine Tea Company,[227] and in 1826 the plagiarised version of the guide appeared in a much expanded form as the book *Tsiology*. The 1785 guide describes Bohea tea as follows:

> Bohea is the loweft quality of the black teas, and is divided into three diftinct titles or denominations, viz. Ordinary Bohea, Middling, and

223 Liú Yǒng 劉勇. 2007. *The Dutch East India Company's Tea Trade with China 1757–1781*. Leiden: Brill.

224 Liú (2007: 212–236).

225 Richard Twining. 1784. *Observations on the Tea and Window Act and on the Tea Trade*. London: T. Cadell (p. 42).

226 Anonymous. 1823. 'Tea', pp. 226–230, Vol. XX in *Encyclopœdia Brittanica: or, A Dictionary of Arts, Sciences and Miscellaneous Literature; Enlarged and Improved* (6th edition). Edinburgh: Archibald Constable and Company (p. 229).

227 London Genuine Tea Company. 1820. *The History of the Tea Plant; from the Sowing of the Seed, to Its Package for the European Market, including every interesting Particular of this Admired Exotic, to which are added, Remarks on Imitation Tea, Extent of the Fraud, Legal Enactments Against It, and the Best Means of Detection*. London: Lackington, Hughes, Harding, Mavor and Jones.

> Good Bohea. In general, bohea tea in refpect to its appearance, is compofed of very large and fmall leaves, with a great quantity fo fmall as to refemble duft. Its colour is of a dirty dark brown, rather tinged with flight green. The large leaves appear as if two or three were ftuck together; it is alfo attended with a number of berries and ftalks. The fmell is frefh, but has a faintnefs, and by fome compared to the fmell of dried hay. When put in water, it produces a colour of the deepeft tincture, nearly to that of mahogany; a colour much difliked by all judges in tea.[228]

The next type of tea is Congou, which is described in the 1785 guide as being a cut above Bohea in quality.

> The next quality of black tea to the bohea, though infinitely better, is congou. It has a greater variety of qualities than the bohea, is compofed of a long slender leaf, and of confiderable blacker appearance. Its fmell in the inferior quality is very trifling, but in the beft fort very fragrant. The fuperior fort of congou is of a fmall greyifh leaf.[229]

This premium black tea was especially manufactured for the European market using newly innovated *gōngfū* 工夫 'skills' or 'meticulous methods'.

Colour and perhaps even a modicum of taste could still be eked out of Congou and Bohea tea leaves even after multiple settings, more so than from more delicate teas such as Pekoe. The darker colour and astringency also appealed to the labouring classes in England, who in the mid 18th century embraced the tea drinking habit previously reserved to the élite and middling sorts, as tea prices gradually came down. Pekoe is listed as an even finer quality, representing the best in black tea, whilst Souchong is also mentioned as a variety intermediate in quality between Congou and Pekoe.

In the green teas, the first variety mentioned is Hyson. *The Tea Purchafer's Guide* gave birth to the old urban myth about the provenance of the name Hyson and thereby reveals that the origin of the name was manifestly unknown to the author, though he had spent many years in the service of the East India Company.

> Hyson Tea is faid to be fo called from a Mr. Hyffon, a rich East India merchant, who firft imported it.[230]

The guide explains that Hyson is the highest grade of green tea, better than the various grades of Singlo or gunpowder tea, and that Hyson, 'when made into tea, it fcarcely tinctures the water'. Green gunpowder tea is described as a variety of Hyson with a strong taste, which can be used to enhance the aroma of Hyson that has lost its fragrance.[231]

Finally, the guide warns about the practices of adulteration which were prevalent at the time. The author described the practice of dying 'the bad bohea with green vitriol to pafs for green tea'. He documented that the 'Englifh mode of counterfeiting tea is by the affiftance of afh and floe leaves, which being steeped in copperas, undergo' the same drying procedure as in the preparation of regular tea leaves. This particular for of adulterated tea in England was known as *smouch*. Furthermore, there 'is alfo another counterfeit for hyfon tea from the hufks of wheat, and it is really a ftrong deception'.[232] By this time, however, the adulteration of tea had already been practised for decades, for a fine of £100 had been introduced for the adulteration of tea in 1725, and adulterating tea was punished with imprisonment from 1766.

228 Anonymous. 1785. *The Tea Purchafer's Guide; or, the Lady and Gentleman's Tea Table and Ufeful Companion in the Knowledge and Choice of Teas. To which is Added, the Art of Mixing One Quality of Tea with Another as Practised by Tea-Dealers, By a Friend to the Public, who has been many Years in the Eaft India Company's Service, particularly in the Tea Department*. London: G. Kearsley (pp. 18–19).

229 Anonymous (1785: 19).

230 Anonymous (1785: 27).

231 Anonymous (1785: 27).

232 Anonymous (1785: 35).

The susceptibility of green tea to counterfeiting by the use of dyes underscored its greater desirability, but would in time also help to diminish the market for green tea in the West. The Industrial Revolution heralded the adulteration of many more mass-produced foodstuffs, and books and pamphlets began to appear, warning about such adulterations, and tea was but one of many products to succumb to such practices.[233]

In 1795, David Davies contrasted the tea of the English working class, consisting of 'Spring water, juſt coloured with a few leaves of the loweſt-priced tea, and ſweetened with browneſt ſugar' with the 'fine hyſon tea, ſweetened with refined ſugar, and ſoftened with cream', imbibed by the rich.[234] However, by this time, the working classes in England and the frugal in Holland drank not just Congou black tea, but also the inferior green tea called Twankay, known under the name *thunkaij* in the United Provinces.

233 Fredrick Accum. 1820. *A Treatise on Adulterations of Food, and Culinary Poisons, Exhibiting the Fraudulent Sophistications of Bread, Beer, Wine, Spirituous Liquors, Tea, Coffee, Cream, Confectionery, Vinegar, Mustard, Pepper, Cheese, Olive Oil, Pickles and other Articles Employed in Domestic Economy and Methods of detecting them*. London: Longman, Hurst, Rees, Orme and Brown; Anonymous. 1839. *Deadly Adulteration and Slow Poisoning Unmasked; or, Disease and Death in the Pot and the Bottle; in which the Blood-Empoisoning and Life-Destroying Adulterations of Wines, Spirits, Beer, Bread, Flour, Tea, Sugar, Spices, Cheese-Mongery, Pastry, Confectionary Medicines, &c. &c. &c. are laid open to the Public, with Tests or Methods for the Ascertaining and Detecting the Fraudulent and Deleterious Adulterations and the Good and Bad Qualities of those Articles: with an Exposé of Medical Empiricism and Imposture, Quacks and Quackery, Regular and Irregular, Legitimate and Illegitimate: and the Frauds and Mal-practices of the Pawn-Brokers and Madhouse Keepers*. London: Sherwood, Gilbert and Piper.

234 David Davies. 1795. *The Case of Labourers in Husbandry Stated and Considered*. Bath: R. Crutwell (p. 39).

Tea to the Barbary Coast

The introduction of tea to Morocco is poorly documented. Today, with a per capita consumption of around 1.4 kg annually, Morocco is one of the world's largest tea consuming nations and the world's largest importer of green tea. In Morocco, the habit of drinking a hot infusion of fresh mint was purportedly already an established practice before the introduction of tea, and the addition of green gunpowder tea and sugar resulted in a much more invigorating beverage. The origins of Moroccan mint tea are not well documented or, if recorded in historical texts, remain hitherto largely unresearched.

In 1605, the first Dutch envoy visited one of the several vying sultans during a troubled period in Moroccan history. His mission was to discuss the persistent attacks by Barbary pirates on Dutch and other European vessels. In 1609, the first Moroccan envoy to the States General was received in The Hague, and in 1610 the first treaty was signed between the United Provinces and a Moroccan potentate. Meanwhile tea was first brought to Holland by the Dutch East India Company from Japan in 1610. Then tea was introduced to Paris from Holland in 1636, and finally the Dutch began to ship tea to England from 1645. Morocco was not yet a market for tea. Rather, the United Provinces sought to maintain relations so that Barbary pirates would pose less of a hindrance to shipping. In 1684, the States General concluded a new treaty with sultan Moulay Ismail ben Sharif مولاي إسماعيل بن الشريف (*regnabat* 1672–1727), who during his long reign received a number of Dutch envoys in Rabat.

Likewise, the sultan also sent nine embassies to England and received a number of British emissaries in return, but during the time of the sultan's reign the British depended for their tea primarily on Holland. There is a perhaps spurious legend purporting that Moroccan style tea with mint was invented during the reign of sultan Moulay Ismail ben Sharif, who allegedly accepted tea as a ransom payment from queen Anne in exchange for 69 British hostages who had been kidnapped by Barbary

pirates.[235] Once the sultan came to know about tea, the tradition goes, he gladly received tea as a gift from Dutch and British diplomatic missions and also prevailed upon the Franciscans at Meknès to furnish him with tea.[236] There is no mention of tea, however, in the account of the British embassy sent to ransom the captives.[237]

There were numerous contacts between Morocco and the United Provinces, Britain and France both before and during the reign of sultan Moulay Ismail ben Sharif, but at the time of his reign the supply of green tea as well as the porcelain cups used in Morocco at the time came predominantly from Holland, which at the time was still the principal supplier of these commodities. The Magreb Arabic term for the mint tea served in Morocco is *ʾit-tāī* أتاي 'tea', which differs from the standard Arabic word for tea and instead represents a Dutch loan word.

Much later, toward the end of the 18th century, the English surgeon William Lempriere visited the Moroccan court during the reign of sultan Moulay Yazid ben Mohammed مولاي اليزيد بن محمد (*regnabat* 1790–1792). By this time the practice of drinking tea in the Moroccan style was already well established. During his visit in his professional capacity as a physician, Lempriere recorded a description of the Moroccan preparation of green tea with fresh mint, tansy and lots of sugar.

> When a Moor receives his gueſts he never riſes from his ſeat, but ſhakes hands, enquires after their health, and deſires them to ſit down, either on a carpet or a cuſhion placed on the floor for that purpoſe. Whatever be the time of day, tea is then brought in on a tea-board with ſhort feet. This is the higheſt compliment that can be offered by a Moor, for tea is a very expenſive and ſcarce article in Barbary, and is only drank by the rich and luxurious. Their manner of preparing it is by putting ſome green tea, a ſmall quantity of tanſey, the ſame portion of mint, and a large proportion of ſugar (for the Moors drink their tea very ſweet) into a tea-pot at the ſame time, and filling it up with boiling water. When theſe articles are infuſed a proper time, the fluid is then poured into remarkably ſmall cups of the beſt India china, the ſmaller the more genteel, without any milk, and, accompanied with ſome cakes or ſweetmeats, it is handed round to the company. From the great eſteem in which this beverage is held by the Moors, it is generally drank by very ſmall and ſlow ſips, that its flavour may be longer enjoyed; and as they uſually drink a conſiderable quantity whenever it is introduced, this entertainment is ſeldom finiſhed in leſs time than two hours.[238]

Lempriere's description of the diminutive tea cups used by the Moroccans indicates that they were still using the first style of porcelain cups introduced by the Dutch and also in use in Europe at the time that Morocco first acquired tea from the Dutch.

Although Lempriere asserted that tea was only drunk by the wealthy, he was offered tea repeatedly during his sojourn in Morocco, not just by the many princes on whom he paid a doctor's house call, but also by bourgeois Moroccans out on the street.

> As the Moors are nor fond of admitting men into their houſes, except upon particular occaſions, if the weather is fine they place a mat, and ſometimes a carpet, on the ground before the

235 Gautier (2006: 26, 37).

236 Abdelahad Sebti. 1999. 'Itinéraires du thé à la menthe', pp. 141–153 in Barrie and Smyers (op.cit., pp. 142).

237 John Windus. 1725. *A Journey to Mequinez, the Reſidence of the Preſent Emperor of Fez and Morocco: On the Occaſion of Commodore Stewart's Embaſſy thither for the Redemption of the Britiſh Captives in the Year 1721.* London: Jacob Tonson.

238 William Lempriere. 1791. *A Tour from Gibraltar to Tangier, Sallee, Mogodore, Santa Cruz, Tarudant; and Thence, over Mount Atlas, to Morocco: including a Particular Account of the Royal Harem, &c.* London: Printed for the Author; and sold by J. Walter, Charing-Cross; J. Johnson, St. Paul's Church-Yard; and J. Sewell, Cornhill (pp. 298–300).

> door, feat themfelves upon it crofs-legged, and receive their friends, who form a circle, fitting in the fame manner, with their attendants on the outfide of the groupe. Upon thefe occafions they either drink tea, or fmoke and converfe. The ftreets are fometimes crowded with parties of this kind; fome engaged in playing at an inferior kind of chefs or drafts, at which they are very expert; but the majority in converfation.[239]

The English surgeon visited many a Moroccan prince, and he described that tea was invariably part of courtly Moroccan hospitality. When Lempriere visited one prince, whom he described as 'a handfome young man, of about the age of fix-and-twenty, of rather a dark complexion, but accompanied with an open and generous countenance', he 'was immediately defired to form one of the groupe, and was helped to tea'.[240] Even when the surgeon paid house calls on prominent ladies of the sultan's harem, they would strike up a conversation and then quickly serve tea.

> In the midft of this converfation tea was introduced, though eleven o'clock in the morning. A fmall tea-board, with four very fhort feet, fupplied the place of a table, and held the tea equipage. The cups were about the fize of fmall walnut-fhells, of the very beft Indian china, and of which a very confiderable number were drank.[241]

His account of his visit to yet another Moroccan prince is interesting because it shows how ingrained the norm of taking tea with milk already was in England. He described the prince as 'about thirty-eight years of age, and of a tall and majeftic appearance, with a very expreffive and lively countenance', and this prince too promptly …

> ordered one of his pages to bring in tea, though fo late as twelve o'clock at noon. Out of compliment to me, for the Moors feldom ufe it, the prince fent for milk, and faid, as he knew the Englifh always drank it with their tea, he would prefent me with a milch cow, that I might enjoy the cuftom of my own country. This promife, however, entirely efcaped his royal highnefs's memory, and the cow never made her appearance.[242]

Aside from Lempriere's presumably feigned gullibility about the milch cow, his various reports of taking tea in Morocco are informative in that the English surgeon creates the impression of being unaccustomed to the spontaneity of having tea at any hour of the day rather than at certain set hours.

In fact, when Lempriere was first dispatched to Morocco from Gibraltar, he was accompanied by a young prince whose name he records as 'Muley Absulem', who was evidently fond of drinking tea throughout the day. Lempriere evidently instructed the young prince to refrain from the incessant drinking of tea. So, this became the very first topic of conversation when Lempriere was finally granted an audience with the reigning sultan Moulay Yazid ben Mohammed.

> His majefty next afked in a very aufter manner, "What was the reafon I had forbidden Muley Abfulem the ufe of tea?" My reply was, "Muley Abfulem has very weak nerves, and tea is injurious to the nervous fyftem."—"If tea is fo unwholefome," replied his majefty, "why do the Englifh drink fo much?" I anfwered, "It is true, they drink it twice a day, but then they do not make it fo ftrong as the Moors, and they generally ufe milk with it, which leffens its pernicious effects. But the Moors, when once they begin to ufe it, make it very ftrong, drink a great deal, and very frequently without milk."—"You

239 Lempriere (1791: 305).
240 Lempriere (1791: 306).
241 Lempriere (1791: 407–408).
242 Lempriere (1791: 308–310).

FIGURE 6.47
Moroccan أتاي *ʾit-tāī* 'tea', from Dutch *thee* 'tea', is brewed from green gunpowder tea and freshly plucked mint leaves. The greenish infusion is characteristically poured into glasses whilst holding the tea kettle at a height. The pouring is sometimes performed theatrically by Moroccan men, but often serving *thé à la menthe* is a sedate and routine affair, as demonstrated by this well-practised woman at Oualidia in 1985.
PHOTO BY JAAP HOFSTEE

> are right," ſaid the emperor; "and I know it ſometimes makes their hands ſhake."[243]

From 1605, nearly two centuries before Lempriere would enjoy the pleasures of consorting with Moroccan princes, the United Provinces had held a vested interest in maintaining good ties with Morocco in order to safeguard shipping from the attacks and plundering of Barbary pirates. From the earliest days, when the Dutch supplied Morocco with both green tea and porcelain cups, the Moroccans showed a preference for green gunpowder tea, which they took to blending with fresh mint in a single strongly sweetened infusion. However, the overwhelming preference for gunpowder tea was not yet as pronounced as it is today, for in the early days of the Dutch tea trade both Hyson and young Hyson were also imported.[244]

At one point, the role of the principal supplier of tea and also of sugar was taken over by

243 Lempriere (1791: 210–211).

244 Sebti (1999: 146–147).

Britain. In fact, tea was one of the commodities which the British were eager to supply to the Maghreb in 1856, when the British, represented by Sir John Drummond Hay, coerced sultan ʿAbd al-Rahman ibn Hisham عبد الرحمن بن هشام (*regnabat* 1822–1859) into signing the Anglo-Moroccan trade treaty. Until 1853, the trade in valuable commodities such as tea had been subject directly to regulation by the Moroccan treasury or *makhzan* المخزن. In the negotiations of 1853, tea was one of the goods for import explicitly mentioned by the British negotiator John Drummond Hay. After the ban on British tea imports was lifted, the British began to sell tea to Morocco, but they protested that the duties were excessive. The sultan and treasury were compelled to conclude and ratify a trade treaty under duress on the 9th of December 1856, which went into effect from the 10th of January 1857.

After Moroccan assaults on the Spanish enclaves of Ceuta and Melilla, the Tétouan War (*gerebatur* 1859–1860) broke out between Spain and Morocco. The British efforts at mediation before and during the conflict were perceived in the Maghreb as favourable to Moroccan interests. In the year 1869, the value of British tea imported to Morocco attained a worth of £40,210. During the 1870s, the British trade in green gunpowder tea as well as sugar to Morocco remained robust, and during this period France also began to sell much sugar in Morocco. By contrast, the cheap type of Brazilian coffee consumed in Morocco at this time amounted annually to much less than half of the value of the green gunpowder tea imports.[245]

245 Khalid ben-Srhir. 2005. *Britain and Morocco during the Embassy of John Drummond Hay, 1845–1886* (translated by Malcolm William and Gavin Waterson). London: Routledge (pp. 25, 28, 30, 129–131, 136–138).

CHAPTER 7

Interlude: Coffee and Chocolate

Vicissitudes of Fortune and Fashion

Any understanding of the history of tea would be incomplete without some grasp of the history of two other foreign beverages that were likewise brought to the West and subsequently converted into global drinks as a consequence of European colonial expansion. The first cacao beans arrived in Habsburg Spain sixty-six years before the first tea was unloaded in the port of Amsterdam in 1610, but cacao had a longer way to go before it would be transformed into anything resembling the chocolate beverage that we know today. The first coffee beans likewise passed into the hands of botanists of the Holy Roman Empire at Ferrara and Vienna at least thirty-six years before the first specimens of tea were submitted to the scrutiny of the Lords Seventeen of the Dutch East India Company.

Nonetheless, tea took off as a beverage in the West more quickly than did either coffee or cacao. Yet, by the middle of the 17th century, both coffee and cacao were competing with tea. During this time, the vicissitudes of fortune and fashion affected the popularity of tea, coffee and cacao in different nations differently, resulting in divergent outcomes. Tea was drunk in Holland and later France before this Asian leaf reached England, but, in the course of the 17th century, coffee overtook tea in both the Dutch republic and France. Coffee was drunk in England before this Abyssinian bean became a popular brew in Holland and France. Yet in England tea soon overtook coffee in popularity. Three centuries later, Turkey would likewise make the switch from coffee to tea, though in a more drastic and abrupt fashion.

The First Tidings of Coffee Reach Europe

The earliest known mention of coffee in a published Western source is by the Flemish scholar Carolus Clusius (1526–1609), alias Charles de l'Écluse. Clusius came from Atrecht, which was captured in 1640 by the French who refer to the city as *Arras*, just as *Duinkerken* or Dunkirk would be captured by France six years later. At the culmination of his career in 1594, Clusius became a professor at the University of Leiden, where he headed the botanical garden. Yet in 1574, when he first wrote about coffee, Clusius was still the court botanist of Maximilian II, the Holy Roman emperor at Vienna. Clusius published seven drawings of coffee beans which he had received from the physician Alphonsus Pancius, professor at the University of Ferrara.

> … quémque *Buna* nonnulis, aliis verò *Elkaue* nuncupati tradit.
>
> BVNA igitur Fagacæ eſt magnitudine, aut paulo amplior, oblongior plerunque, colore ex cinereo nigricante, cortice tenui, & veluti fulcum quendam per longitudinem vtrinque habente, per quem facilè in duas æquales partes ſeparatur, quæ ſingula grana continent, oblonga, altera parte plana, fuluefcentia, guſtu acido. Alunt in Alexandria potionem, quandam ex ea fieri vim refrigerandi non mediocrem obtinentem.[1]

> … which some call *Buna* [i.e. *bunn* بُنّ 'coffee plant'] and others reportedly call *Elkaue* [i.e. *al-qahwah* القهوة 'the coffee'].

1 Clusius (1574: 214–215), but the reference to coffee and illustration of the beans do not yet occur in the 1567 edition of *Aromatvm et Simplicivm aliqvot Medicamentorvm apvd Indos Nascentivm Historia*.

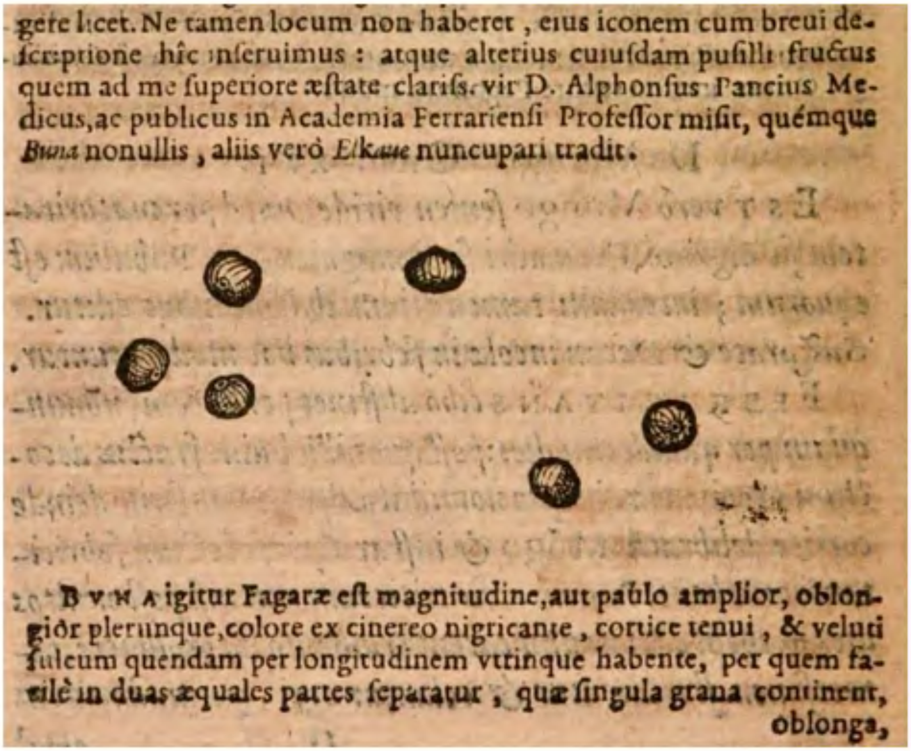
FIGURE 7.1
Flemish scholar Carolus Clusius (1526–1609), alias Charles de l'Écluse, painted by Jacob de Monte, University of Leiden, Universiteitsbibliotheek, Icones 19

> *Buna* is the size of beans, or a little bigger, and a trifle more oblong, of a blackish ashen colour, with a thin shell, having a furrow running along the length of the bean on both sides, by which the bean can easily be separated into two equal parts, each resembling an oblong bead flat on one side, yellowish, and sour in taste. In Alexandria, they serve this beverage, from which a not inconsiderable cooling effect can be obtained.

The second mention of coffee appeared in print in 1582 in the account given by Leonhart Rauwolfen of his travels to the Near East. In May 1573, he had embarked in Marseille and returned to Augsburg in February 1576. During his stay in Aleppo, he described how the Turks and Arabs drank a hot black beverage called *Chaube*.

> ...ſo habens gemaintlich darbey auch weitte offne Låden, darinnen ſie ſich zuſamen auff die Erden oder das Pfletz ſitzen vnd mit einander zechen. Vnder andern habens ein gůt getrånck, welliches ſie hoch halten, Chaube von jnen geneñet, das iſt gar nahe wie Dinten, ſo ſchwartz, und in gebreſten, ſonderlich des Magens, gar dienſtlich. Diſes pflegens am Morgen frů, auch an offnen orten, vor jedermenigklich one alles abſcheuen zutrincken, auß jrdinen vnnd Porcellaniſchen tieffen Schålein, ſo warm alß ſies könden erleiden, ſetzend offt an, thond aber kleine trincklein, vnd laſſens gleich weitter, wie ſie nebeneinander im krayß ſitzen, herumb gehen.[2]

2 Leonharti Rauwolſen. 1582. Aigentliche Beſchreibung der Raiß, ſo er vor diſer Zeit gegen Auffgang inn die Morgenlånder, fürnemlich Syriam, Iudæam, Arabiam, Meſopotamiam, Babyloniam, Aſſyriam, Armeniam &c. nicht ohne geringe můhe vnnd groſſe



gere licet. Ne tamen locum non haberet, eius iconem cum breui de-
ſcriptione hîc inſeruimus: atque alterius cuiuſdam puſilli fructus
quem ad me ſuperiore æſtate clariſs. vir D. Alphonſus Pancius Me-
dicus, ac publicus in Academia Ferrarienſi Profeſſor miſit, quémque
Buna nonullis, aliis verò *Elkaue* nuncupari tradit.

BVNA igitur Fagaræ eſt magnitudine, aut paulo amplior, oblon-
gior plerunque, colore ex cinereo nigricante, cortice tenui, & veluti
ſulcum quendam per longitudinem vtrinque habente, per quem fa-
cilè in duas æquales partes ſeparatur, quæ ſingula grana continent,
oblonga,

FIGURE 7.2 *Bvna* or coffee beans, as depicted by Clusius (1574: 214)

> They also commonly have wide open arcades, in which they sit together on the ground or in the open gallery and indulge together. There they will have a good beverage which they hold in high esteem, which they call *Chaube*, that looks quite like black pigment, for it is so black, and particularly helpful in alleviating ailments of the stomach. They usually take this early in the morning in public, quite openly, communally without any inhibition, drinking it from deep ceramic and porcelain cups as hot as they can stand it, sometimes sitting in a circle and sipping it in turns as they pass it around.

The first description of the actual coffee plant was provided in 1592 by the physician Prosper Alpinus (1553–1617) of Marostica in the *Sereniſſima Republica di Venetia* 'most serene republic of Venice'. Alpinus is more generally known today by the Italianate form of his name, *Prospero Alpini*. From 1580 to 1583, Alpinus stayed in Egypt as the personal physician to Georgius Hemus, the Venetian consul in Cairo. Alpinus first reported on coffee in 1591 under the Arabic name for the plant *bon*, i.e. *bunn* بُنّ.

> Eſt etiam illis in vſu frequentiſſimo ſemen illud bon ab ipſis appellatum, & quo illud decoctum parant, de quo poſterius loquemur. Huic omnes non ſecus quàm noſtri in publicis tabernis, vinorum potationibus, operam dant. De eoq́ue figulis diebus ſæpe admodum calenti interdiu, ſed maxime mane ieiuno ſtomacho large bibere conſueuerunt. Si quidem ipſo ventriculum calefieri, roborariq́; apud eos compertũ ſit, non minusq́; etiam viſcerum obſtructiones tolli, quotidie experiantur; Mulieribus ad euocandos menſes pręſentaneum eſt remedium, apud eaſq́; in vſu eſt frequentiſſimo, quibus diminutè fluentibus, eius decocti probè calentis

gefahr ſelbs volbracht: neben vermeldung vil anderer ſeltzamer vnd denckwürdiger ſachen, die alle er auff ſolcher erfündiget, geſehen vnd obſeruiert hat. Laugingen (pp. 102–103).

FIGURE 7.3
Early depiction of the coffee plant by Prosper Alpinus (1592, f. 26^{v})

> multum epotant, paulatim modicum forbitantes. Sic enim in vfu eft apud omnes, ut paulatim ipfum deglutiant.[3]

> There is also a seed in use amongst them which they call *bon* [i.e. *bunn* بُنّ 'coffee plant'], from which they prepare a drink which we shall have occasion to speak more about later. This beverage is served in specially dedicated public taverns in a manner not different from the way we take wine. They take it on a daily basis, even though it was often quite hot during the day, and they take it especially in the morning on an empty stomach. If the stomach is heated by it, it is known amongst them to strengthen it, and it is a matter of daily experience that it acts to clear the bowels. It is a ready remedy to elicit menses in women, amongst whom, especially those with diminished flow, it is used most frequently. When properly prepared, it is sipped little by little from a hot cup. This is the way that it is taken by everybody so that it is gulped down bit by bit.

In the following year, 1592, Alpinus published his account of a live coffee tree which he had seen the *viridarium* or tree garden of a wealthy Turk in Cairo. In this passage, he cites both the names *Bon* and *Caoua*.[4] He provided a description of the tree and an illustration of a branch, without a depiction of the fruit however.

Both his 1591 opus and his 1592 book are cast in the form of a discussion between himself, the author Prosper Alpinus, and his colleague, the German physician and botanist Melchior Wieland (1520–1589). It was not an unusual conceit in this period to couch an expository text in this form, and Wieland, who worked in the botanical garden in Padua, appears in Latin as Guilandinus.

> ALPINVS. Arborem uidi in uiridario Halybei Turcę, cuius tuichonem nunc fpectabis, ex qua femina illa ibi uulgatiffima Bon, uel Ban appellata, producuntur: ex his omnes tum Aegyptij, tum Arabes parant decoctum uulgatiffimum, quod uini loco ipfi potant, uẽditurque in publicis oenopolijs, non fecufquàm apud nos uinum: illique ipfum uocant Caoua. Hæc femina ex

3 Alpinus (1591, Lib. IV, f. 118^{r}).

4 Half a century later, the orthography appears as *Caova* in the Bavarian edition (Prosper Alpinus. 1640. *Prosperi Alpini de Plantis Ægypti Liber Cum Obfervationibus & Notis Ioannis Veslingii Eqvitis n Patavino Gymnafio Anatomiæ & Pharmacię Profefforis Primarij*. Patavii [Passau]: Typis Pauli Frambotti Bibliopolæ, p. 63).

fœlici Arabia aſportantur. Arbor, quam me inſpexiſſe dixi, euonomo ſimilis obſeruata eſt, ſed tamen folia craſſiora, durioraque habebat, uiridiora, perpetuoque uirentia. Vſus eſt illorum ſeminum omnibus notiſſimus, ad parandum iam dictum decoctum, quod quo pacto ab illis paretur, aliàs à me dictum eſt. Vtuntur tamen eius decocto ad roborandum ventriculum frigidiorem, adiuuandamque concoctionem, & non minus ad auferandas à viſceribus obſtructiones; in tumoribuſque hepatis lienisque frigidis, & antiquis obſtructionibus, fœliciori cum ſucceſſu decoctum multos dies experiuntur. Quod etiam vterum maxime reſpicere uidetur, ipſum enim excalfacit, obſtructioneſque ab eo aufert, ſic enim in familiari uſu eſt apud omnes Aegyptias, Arabasque mulieres, vt ſemper, dum fluunt menſes, ipſorum vacuationem, huius decocti feruentis multum paulatim ſorbillantes, adiuuent. ad promouendos etiam, in quibus ſuppreſſi ſunt, vſus huius decocti, purgato corpore multis diebus, vtiliſſimus eſt. GVIL. Auicennas de his ſeminibus meminit, ſimileſq; uel eoſdem vſus à te narratos de his ſeminibus memoriæ prodidit. ipſumque ſemen calidum in tertio, & ſiccum in ſecundo gradu cõſtituit, quod tamen verum non videtur, quando ſemen ſapore dulceſcat, cum pauco amarore nullamque acrimoniam præſeferat. Nihilominus ipſum obſtructionibus uiſcerum, frigidiſque tumoribus hepatis, vel lienis multum conferre docuit. Sed ait, ſtomacho nauſeam concitare, pituitamque purgare, atque multa alia hæc ſemina prȩſtare, experientia penes Aegyptios didici. atque hæc eſt arbor, quam Cayri olim inſpexeram.[5]

Alpinus: In the garden of the Turk Halybei I saw a tree, of which you will now see the illustration, which produces the seeds well known there, called *bon* or *ban* [i.e. *bunn* بُنّ], and with these berries here everybody, Egyptians as well as Arabs, prepare a popular decoction which they drink instead of wine. This decoction is sold in public taverns, not differently than is our wine. They call it *caoua* [i.e. *qahwah* قَهْوَة 'coffee']. These berries come from *Arabia felix* [i.e. the Yemen]. The tree that I said that I saw looked to me very much like *Euonymus europaeus* or a common spindle tree, but otherwise had leaves that were thicker, tougher and more green, and were evergreen. Everybody is quite familiar with the use of these berries to prepare the afore-mentioned decoction. How it is prepared I have already told elsewhere. They use this to fortify a stomach that is too cold, to aid digestion and to remove obstructions from the viscera. They take this decoction for several days with good effect to treat cold tumours of the liver and spleen and chronic obstruction. The use of this decoction is also indicated for the uterus, which it heats by removing obstructions. For that reason, this drink is in such common use amongst all Egyptian and Arabian women that they drink great quantities of it when they are menstruating, hot and in small sips to facilitate the flow. The use of this drink for many days after having purged the body is very helpful in case the flow of the menses is suppressed. *Wieland*: Avicenna spoke of these berries, attributing to them the same uses or very similar uses to those that you now describe. According to him, they are hot to the third degree and drying to the second degree, but this strikes me as imprecise, since their flavour is rather sweet, a trifle bitter, and not at all unpleasant. [*Alpinus:*] However, he has taught us that these seeds are very useful in the case of obstructions of the viscera or

5 Prosper Alpinus. 1592. *Prosperi Alpini de Plantis AEgypti Liber. In qvo non pavci, qvi circa herbarum materiam irrepſerunt, errores, deprehenduntur, quorum cauſa hactenus multa medicamenta ad vſum medicinȩ admodum expetenda, pleriſque medicorum, non ſine artis iactura, occulta, atque obſoleta iacuerunt.* Venetiis [Venice]: apud Franciſcum de Franciſcis Şenenſem (f. 26^{r}, with an illustration of 'bon' [i.e. *bunn* بُنّ] on f. 26^{v}). The same text occurs on pp. 63–64 of the 1640 edition published in Passau, with the illustration of the coffee tree occurring on p. 65. However, there are a number of tiny orthographic differences between the two printed texts. Here the original 1592 text is reproduced.

FIGURE 7.4
Prosper Alpinus (1553–1617), as depicted in an engraving by Reynier Blokhuysen (1673–1744)

> cold tumours of the liver and spleen, but he says that they may cause nausea to the stomach and drive out phlegm, and amongst the Egyptians I learnt about many other effects of these berries. Such was the tree that I had the opportunity to observe in Cairo.

Even after coffee later became a popular drink in Europe, the tendency to view coffee from a pharmacological point of view would continue. A century and a half later, in 1761, numerous different therapeutic effects were ascribed to coffee by Henrik Sparschuh, who defended a doctoral dissertation in medicine in Uppsala on coffee under Linnæus.[6]

It is noteworthy that the suggestion that coffee might have been known to the Persians centuries earlier originates from the passage quoted above, in which Alpinus allowed his close friend

6 Hinricus Sparschuch. 1761. *Q.B.V. Dissertatio Medica, in qua Potus Coffeæ, leviter adumbratur quem Consens. Nobil. nec non Exper. Ord. Med. in Illustri ad Salam Lyceo, sub Præsidio Viri Nobilissimi et Experientissimi Dn. Doct. Caroli Linnæi.* Upsaliæ.

and colleague Melchior Wieland, who had actually died three years before the book was published, posthumously to suggest that Avicenna's medicinal herb *bunchus* from Yemen might represent an early reference to *bon* or *bunn* بنّ 'coffee'. Avicenna (980–1037), whose Western name was taken from the final part of his Persian name ibn Sīnā ابن سینا, was a prolific scholar. Avicenna committed to writing much of the knowledge that was then current in Persia about medicine and medicinal herbs. His *Canon Medicinae* 'canon of medicine' was translated into Latin at Toledo by Gerard of Cremona (1114–1187) and published centuries later in Venice in 1489.

However, the *bunchus* mentioned by Avicenna was not a bean, but the root of a plant.[7] Another Persian scholar Rhazes (854–925), alias Rasis, known in Farsi as Abūbakr-e Mohammad-e Zakariyyā-ye Rāzī ابوبکر محمّد زکریای رازی, made mention of the same medicinal herb over a century earlier under the name *bunc*, about which he wrote:

> Bunc calidũ eſt ſiccũ. Qd′ ſtomaco ꝯgruũ exiſtẽs, mali ſudoris odorẽ atqȝ pſilotri incidit & aufert.[8]

> Bunc is hot and dry, suits the stomach, and cuts away and removes the smell of bad sweat and the odour of the depilatory paste called *psilotrum*.

The root of the Yemenite herb named *bunc* that is mentioned in the two mediaeval Persian medical treatises is unlikely to have been *bunn* بنّ 'coffee'.

The Coffee Homeland in the Kingdom of Caffa

The Arabic name بنّ *bunn* for the coffee tree, like the plant itself, came to Arabia from across the Red Sea. Just across the water from the Yemenite port of Mocha or *al-Mukhā* المخا, speakers of the Afar language call coffee *buna*.[9] The same word occurs in Semitic languages along the Red Sea coast and further inland. In Tigrinya, the word for coffee is *buni* **ቡኒ**,[10] whereas the Amharic for coffee is *buna* **ቡና**,[11] and in Gurage the word for coffee is *buno* **ቡኖ**.[12] Amharic, which has been the dominant language of Ethiopia since mediaeval times, has been particularly receptive to accepting loan words for cultural objects, cultigens, fauna and other terms from non-Semitic languages spoken in the Ethiopian hinterland.

Brockelmann showed that a not insignificant proportion of such borrowed vocabulary is of Kafa origin.[13] In older phylogenetic models, the Kafa language used to be classified as 'Cushitic', but the particular branch to which Kafa belongs is today called Omotic, more precisely Southern Omotic.[14]

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7 'De Buncho C. xcij—Unchũ qdẽ. Eſt res delata de iamen. Quiadaȝ aũt dixerũt q́ ẽ ex radixib' anigailen qũ mouetur & cadit. ELEctio. Meli' ẽ citrinũ et leue boni odoris. Albũ v́o & graue eſt malũ. NAtura. Eſt cal'ȝ & liccũ in ṕmo.km quoſdam eſt frigidũ in ṕmo. OPEratiões & ͵pṕetates. Cõſortat mẽbra. DEcoratio. Mũdificat cutem & exiccat hũiditates q́ ſũt ſub ea:r facit odorẽ corpis bonũ:r abſcindit odorẽ pſilorri. MEmbra nutrimenti. Eſt bonũ ſtomacho' (Avicenna. 1489. *Canon Medicinae* [tranſlatus a magiſtro Gerardo cremonenſi in toleto ab arabico in latinuȝ]. Venice: Dionysius Bertochus, Liber II, Tractatus II, Cap. XCII).

8 Rhazes. 1497. *Liber Raſis ad almanſorem*. Venice: Bonetus Locatellus of Bergamo on behalf of Octavianus Scotus of Monza ('Explicit hoc opus mandato & expenſis nobilis viri domini Octauiani Scoti Civis Modoetienſis. per Bonetum Locatellum Bergomenſem. 1497. die ſeptimo mẽſis Octobris', Tractatus III, Cap. XXII).

9 Didier Morin. 1974. *Dictionnaire afar-français (Djibouti, Érythrée, Éthiopie)*. Paris: Karthala.

10 Wolf Leslau. 1979. *Etymological Dictionary of Gurage (Ethiopic)*. Wiesbaden: Otto Harrassowitz.

11 Wolf Leslau. 1976. *Concise Amharic Dictionary*. Wiesbaden: Otto Harrassowitz.

12 Leo Reinisch. 1888. 'Die Kafa-Sprache in Nordost-Afrika, I & II', *Sitzungsberichte der Philosophisch-historischen Classe der Kaiserlichen Akademie der Wissenschaften zu Wien*, 116 (I): 53–143 & 116 (IV): 251–386.

13 Carl Brockelmann. 1950. *Abbessinische Studien* (Berichte über die Verhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, Philologisch-historische Klasse, 97. Band, 4. Heft). Berlin: Akademie-Verlag.

14 Cerulli identified Kafa decisively and correctly as Southern Omotic, although he used the now outdated term 'Sidama' for the subgroup. The term Omotic was coined by Harold Fleming, who provided an over-

Kafa is spoken by people called the *Kafico*, the denizens of the former kingdom of Caffa, or Kaffa, which thrived in southwestern Ethiopia from the latter part of the 14th century until 1897, and was then succeeded by the whilom Abysinnian provinces of Kaffa and Ennarea.

Here the Kafa language was spoken and continues to be spoken by nearly one million people today. The Kafa word for coffee is *buno* ቡኖ, which denotes both the coffee bean and coffee as a drink, with the regular genitive allomorph ⟨bune-⟩ ቡኔ occurring as the first element in Kafa compound words denoting 'coffee bean', 'coffee grounds', 'coffee house', 'coffee pot' and so forth.[15] Whether a form such as Amharic *buna* is a loan word or a shared retention is not immediately obvious. Kafa distinguishes the bilabial initial occlusives *p*, *ṗ* and *b*, and Reinisch contended that Kafa initial *b* in most cases corresponds regularly to an initial *b* in related languages such as Amharic, Galla and Gonga.[16] The name also occurs either as a cognate form or as a loan word in neighbouring Cushitic or Omotic languages, e.g. Oromo *buna* 'coffee', Gonga *búnno* and *búnna* in Wålāmo and Wåraṭa.[17]

Whilst Leo Reinisch was a resident of the town of Keren in what today is Eritrea from 1879 to 1880, he wrote a treatise on the Kafa language on the basis of the language of his cook, a former 'Galla' or Oromo slave. At this time in Ethiopia, slaves were categorically denominated ethnically as Galla, but the young man turned out not to be a Galla, but a *Kafico*. Reinisch recorded numerous example sentences in the Kafa language, such as *bū́nō ṓgō bḗtō ne Káfā* 'there's lots of coffee in Caffa'. Tellingly, most of the example sentences that Reinisch recorded from his Kafa speaker and adduced to illustrate the rich Kafa tense system, using the conjugation of the verb 'to drink', involve coffee, whereas only two example sentences involve mead as an apparent alternative drink to coffee.[18] Reinisch also recorded the Kafa expressions *bū́nō gūf* 'to make coffee', *bū́nō ūs* 'to drink coffee' and *bū́nō ūj* 'to serve coffee to drink' as well as the Kafa term *finjilā́tō* 'coffee cup'.[19]

Strong evidence identifying the Kafico people of the Caffa kingdom as the original cultivators of coffee comes from ethnographical documenta-

view of the phylogeny of this branch of Afroasiatic that is largely still accepted today (Enrico Cerulli. 1951. *Studi Etiopici IV. La Lingua Caffina*. Roma: Instituto per l'Oriente, p. 525; Harold Crane Fleming. 1976. 'Omotic overview', pp. 299–323, and 'Kefa (Gonga) languages', pp. 351–376 in Marvin Lionel Bender, ed., *The Non-Semitic Languages of Ethiopia*. East Lansing: African Studies Center, Michigan State University).

15 Habte Wold Habte Mikael. 1989. *English Kaffinya Dictionary*. Addis Ababa: Lazarist School (p. 30). The Kafa word was recorded by Beke (1845) as *búnno*, by Cecchi (1885) as *bunó*, by Reinisch (1888) as *bū́nō*, by Masera (1936) as *bunò* in, and by Brockelman (1950) as *bunō*. Kafa word stress is marked by an acute accent in the orthography of Reinisch (1888: 88, *passim*). In the citation forms of disyllabic words ending in a vowel, the stress occurs regularly on the first or, as Reinisch would have it, paenultimate syllable. However, in declined or conjugated forms, the word stress often shifts to another syllable in the corpus of Kafa utterances recorded by Reinisch (Charles Tilstone Beke. 1845. 'On the languages and dialects of Abysinnia', *Proceedings of the Philological Society*, II: 90–107; Antonio Cecchi. 1885, 1886, 1887. *Da Zeila alle Frontiere del Caffa: Viaggi di Antonio Cecchi pubblicati a cura e spese della Società Geografica Italiana* (three volumes). Roma: Ermanno Loescher & Co.; Carlo Masera. 1936. *Primi elementi di grammatica caffina e dizionario italiano-caffino e caffino-italiano*. Torino: Istituto Missioni Consolata, p. 216).

16 Reinisch (1888: 72, 84, 273), based on a few other etyma as well, other than just the word for coffee, though this question would merit meticulous historical linguistic study.

17 Reinisch (1888: 84).

18 The examples provided by Reinisch (1888: 273, 266–267) include: *bū́nō úw!* 'trink Kaffe!', *būnḗ úwō gáwō ne* 'das Kaffegetränk ist köstlich', *yij bū́nō tā úwe* 'ich habe gestern Kaffe getrunken', *yij nē uwā́je bū́nō* 'du hast gestern keinen Kaffe getrunken', *ṓgō ū́site bū́nō* 'ich trank vil Kaffe', *yā́ji tā ūsḗhe* bū́nō 'morgen werde ich Kaffe trinken', *yā́ji tā ūsā́je bū́nō* 'ich werde morgen keinen Kaffe trinken', *tā májē bū́nō ṓgō uwā́je, ūsā́y tā bā́jite* 'meine Frau trinkt nicht vil Kaffe, trinke nicht!' (sagend) verbot ich es ihr (eigentlich: lasse nicht Getränke bringen!).

19 Reinisch (1888: 267, 368). Cerulli (1951) provided a more complete account of the Kafa tense system and of Kafa verbal morphology more generally.

FIGURE 7.5
A botanical illustration of the coffee plant *Coffea arabica* from Gustav Pabst's 1887 compendium of medicinal plants (Gustav Pabst. 1887. *Köhler's Medizinal-Pflanzen in naturgetreuen Abbildungen mit kurz erläuterndem Texte: Atlas zur Pharmacopoea germanica, austriaca, belgica, danica, helvetica, hungarica, rossica, suecica, Neerlandica, British pharmacopoeia, zum Codex medicamentarius, sowie zur Pharmacopoeia of the United States of America* (four vols.). Gera-Untermhaus: Verlag von Franz Eugen Köhler, Band II, Abb. 106).

tion. Antonio Cecchi wrote the following about 'il caffè che vienne da Caffa' ["the coffee that comes from Caffa"].[20]

> Importantissimo fra i prodotti di questo paese è, come dicemmo, il caffè. Secondo l'opinione di mons. Massaja, la quale si fonda sulle tradizioni dei Caffecciò e degli Arabi di Mocha e del Jemen, questa rubiacea, che la maggior parte dei botanici asserisce essere originaria dell'Arabia, proverrebbe invece dal Caffa, donde sembra aver ricevuto anche il nome. Lo che parmi assai probabile, poichè il Caffa e le terre adiacenti sono, almeno per quanto io so, i soli luoghi, dove il caffè cresce nei boschi così spontaneo e con tanta forza di vegetazione. E il caffè che vegeta all'ombra di grandi foreste riesce, secondo gl'indigeni, di eccellente qualità e non andrebbe soggetto a nessuna di quelle malattie, onde viene d'ordinario colpito se è lasciato esposto all'aperta campagna.[21]

Most important amongst the products of this country, as we have said, is coffee. In the opinion of Mr. Massaja, based on the traditions of the Kafico and the Arabs of Mocha in Yemen, this

20 Cecchi (1885, Vol. I, p. 490).

21 Cecchi (1885, Vol. II, pp. 507–508).

> plant of the madder family, which the majority of botanists have asserted to be of Arabian origin, would appear instead to originate from Caffa, whence it even took its name. This is rather likely, as Caffa and the adjacent regions are, as far as I know, the sole places where coffee is found naturally in the forests and grows so robustly. According to the locals, the coffee which grows in the shade of the forest attains an excellent quality and is not subject to the blights by which the cultivated forms in the fields are often afflicted.

Cecchi recorded that the *Caffecciò* or Kafico practised two types of cultivation, either involving the transplantation of young trees from the forest to the fields surrounding their houses or cultivation from seed. George Huntingford later reported that:

> The Kafa not only drink coffee, but they eat the beans fried in butter and salted … Before the Ethiopian Conquest, coffee for the markets was generally sold as soon as it was dry; that for kings and nobles was kept for two or three years to improve the flavour.[22]

The Caffa kingdom was compelled to recognise Ethiopian suzerainty towards the end of the 16th century under the Ethiopian emperor Serṣe Dingil (*imperabat* 1563–1597). However, the trade in coffee beans from the kingdom of Caffa to other parts of Ethiopia and as far as the Red Sea coast is no doubt much older than this first military confrontation.

Even before Cecchi, Robert Nicol had already noted in 1831 that the Arabic word *qahwah* قَهْوَة 'coffee' derives from the name of the kingdom of Caffa.[23] A manuscript written in Egypt by ʿAbd al-Qādir ibn Mohammed in 1587 claimed that *qahwah* derived from the verb *qahā* قها, denoting a loss of appetite,[24] but this is no more than a folk etymology. When coffee beans became an article of trade, this commodity spread throughout Ethiopia and then across the Red Sea to the Yemen, no doubt along with the tiding that the ultimate provenance of these beans lay in the kingdom of Caffa. The first coffee trees were obviously first grown in the Yemen only much later, and during this endeavour to cultivate coffee in *Arabia felix* it became relevant to borrow the Ethiopian name for the plant itself, which thus yielded the Arabic word *bunn* بُنّ 'coffee plant'.

Coffee Is Adopted in Arabia and Then in Turkey

There is no historical evidence for coffee drinking in the Yemen prior to the 15th century. If any such proof exists, it has yet to be documented. Coffee beans were first brought to Yemen from the Ethiopian highlands, the native habitat of the coffee tree. The montane rainforests of southwestern Ethiopia are the primary centre of genetic diversity of the wild species *Coffea arabica*. This area is also home to *Coffea eugenioides*, a wild species from which *Coffea arabica* diverged only in relatively recent geological time within the genus *Coffea*.[25]

22 George Wynn Brereton Huntingford. 1955. *The Galla of Ethiopia—The Kingdoms of Kafa and Janjero*. London: International African Institute (p. 108).

23 'The name is said to derive from *Caffæ* or *Caffa*, a town of Ethiopia, in the province of Narea on the banks of the Nile, far to the south of Egypt. In that uncivilized region a decoction from Coffee is understood to have been used at a very early period, but the country from which Coffee was first exported as an article of trade was Arabia' (Robert Nicol. 1831. *Treatise on Coffee; Its Properties and the Best Mode of Keeping and Preparing It*. London: Baldwin and Cradock, p. 10).

24 Antoine-Isaac Silvestre de Sacy. 1806. 'No. VII Extrait du livre intitulé *Les preuves les plus fortes en faveur de la légitimité de l'usage du Café*; par le Scheïk Abdalkader ben Mohammed Ansari Djézéri Hanbali', pp, 224–278, Tome II in *Chrestomathie arabe, ou extraits de divers écrivains arabes, tant en prose qu'en vers* (three volumes). Paris: Imprimerie Impériale (Tome II, pp. 226–227).

25 Esayas Aga, Tomas Bryngelsson, Endashaw Bekele and Björn Salomon. 2003. 'Genetic diversity of forest arabica coffee (*Coffea arabica* L.) in Ethiopia as revealed by random amplified polymorphic DNA (RAPD) analysis', *Hereditas*, 138 (1): 36–46.

FIGURE 7.6
The sultan Suleiman I (*regnabat* 1520–1566), who in 1541 forbade caravans from Damascus from bringing coffee to Constantinople at the instigation of a pious favourite lady in his harem, portrait by Titian (1490–1575), Kunsthistorisches Museum, Museumsverband Wien

All coffee cultivars worldwide, including those found in the Yemen, are cultivated landraces or farmer's varieties representing a fraction of one percent of the wild genetic variety found in the wild *Coffea arabica* growing naturally in the highland forests at the heart of the old Kaffa kingdom.[26] Today the coffee gene pool in southwestern Ethiopia is threatened by deforestation, forest fragmentation and environmental degradation as well as increasingly by introgressive hybridisation with newly introduced improved landraces.

Once coffee was introduced to the Yemen, indulging in this drink was notably the predilection of the Sufis. Dervishes dance and chant until they induce a trance. So the new stimulant drink, replete with caffeine, was naturally embraced by the Sufis, who went on to play a key role in popularising the brewing of coffee in the Yemen, whence the drinking of coffee soon spread to Mecca, Medina and Cairo. Conservative imams and fearful potentates attempted on several occasions to ban the trade and public consumption of coffee in Mecca, Cairo and Constantinople in the first half of the 16th century. In 1511, the Mamlūk pasha Khā'ir Beg, who served as a high ranking official in Mecca, forbade coffee as an affront to public morality. Despite the many religious arguments raised against its use, people continued to indulge illicitly in coffee.

26 Raf Aerts, Gezahegn Berecha, Pieter Gijbels, Kitessa Hundera, Sabine Glabeke, Katrien Vandepitte, Bart Muys, Isabel Roldán-Ruiz and Olivier Honnay. 2013. 'Genetic variation and risks of introgression in the wild *Coffea arabica* gene pool in south-western Ethiopian montane rainforests', *Evolutionary Applications*, 6 (2): 243–252.

FIGURE 7.7
Unlike the devoutly abstemious favourite in the harem of Suleiman I, this Ottoman lady two centuries later, in the early 18th century, relishes her cup of coffee, 112 × 101.5 cm, oil on canvas, Pera Museum

After the fall of the Mamlūk sultanate in 1517 with the capture of Cairo by sultan Selim I (*regnabat* 1512–1520), news of coffee travelled to Constantinople, where some went to the effort of obtaining the commodity and began to take this drink privately.[27] First, however, coffee spread to Damascus and from there to Aleppo. Yet for decades Islamic clerics continued hotly to debate whether coffee was a beverage which Muslims should be permitted to consume. In 1541, sultan Suleiman I (*regnabat* 1520–1566) forbade caravans from Damascus from bringing coffee to Constantinople. He did so at the instigation of one of his favourite ladies in his harem who had been worked up into a pious froth by a mufti. This half-hearted attempt to suppress coffee merely increased people's interest in the beverage, which many continued privately to consume.[28]

In time, however, this ban fell into desuetude, and in 1554 the first two coffee houses were opened in the capital of the Ottoman empire. As Valentyn recorded ...

> Voor het jaar 1554 wiſt men binnen Conſtantinopel egter zeer weinig van Coffi en nog in 't geheel van geen Coffi-huyzen, en zoo men

27 In May 330 AD, after the Roman emperor Constantine the Great had moved capital of the empire from Rome to *Byzantium* or Βυζάντιον, the city was rechristened *Constantinopolis* or Κωνσταντινούπολη. After Constantinople fell to the Turks in 1453, the name of the city was left unchanged, and the Turkish rendering of the name, قسطنطينيه *Ḳosṭanṭīniyyah*, remained in official use until the fall of the Ottoman Empire in 1922. The modern Turkish name for the city, *İstanbul*, is actually a petrification of the local Greek expression εἰς τὴν πόλιν (*eis tín pólin*) 'to the city', used by those on their way to Constantinople. Only under the first president of the Republic of Turkey, Mustafa Kemal Atatürk (*obtinebat* 1923–1938), did this colloquial Greek phrase gain official status as the name for the city.

28 Valentyn (1726, *Vyfde Deel*, blz. 193–194). However, Douglas claimed: 'Before the Year 1554, no Coffee was ſeen, much leſs ſold at Conſtantinople' (1727: 19).

FIGURE 7.8 The port of Constantinople in 1789, depicted over two centuries after coffee had first made its *début* in the city, showing the New Mosque, completed in 1665 and modelled after the older Byzantine Christian churches on the Golden Horn, such as the Αγία Σοφία or Hagia Sophia, aquarelle, 40.5×57.5 cm, Jean-Baptiste Hilaire, Pera Museum

daar al van Coffi hoorde fpreken, was het maar ter gelegenheyd van die Sulthane, die bewerkt had, dat zy te Mekka mogt verboden werden, dog in dat zelve jaar … openden twee byzondre lieden d'een Sjems, en d'ander Hakem genaamd, en de een van Damascus, en de ander van Aleppo, ieder een Coffi-huys binnen Conftantinopel in zeker Oord, Tahhta-Calah genaamd, en verkogten die daar aan Lieden van Geleerdheid, Dichters, Schaak-fpeelers …[29]

Before the year 1554, however, people knew precious little about coffee in Constantinople and nothing at all about coffee houses, and if anyone ever did hear anything about coffee, it would be in the context of the sultan who had managed to forbid it in Mecca, yet in that very year two extraordinary persons, one named Shems and the other Hakem, the first from Damascus and the other from Aleppo, each opened a coffee house in a certain neighbourhood within Constantinople known as Tahtakale, and there they undertook to sell it to scholars, poets, chess players …

The oldest reference to coffee in a published English source ironically occurs in a Dutch source, namely in the 1598 English translation of van Linschoten's 1596 *Itinerario*, where the Turkish habit of drinking *chaoua* is described in an editorial note inserted by the well-travelled Leiden University professor Bernardus Paludanus of Enkhuizen, alias Berent ten Broecke (1550–1663).[30] The first English

29 Valentyn (1726, *Vyfde Deel*, blz. 195).

30 Both in the 1596 Dutch original as well as in the 1598 English translation, the form *chaoua* is actually mis-

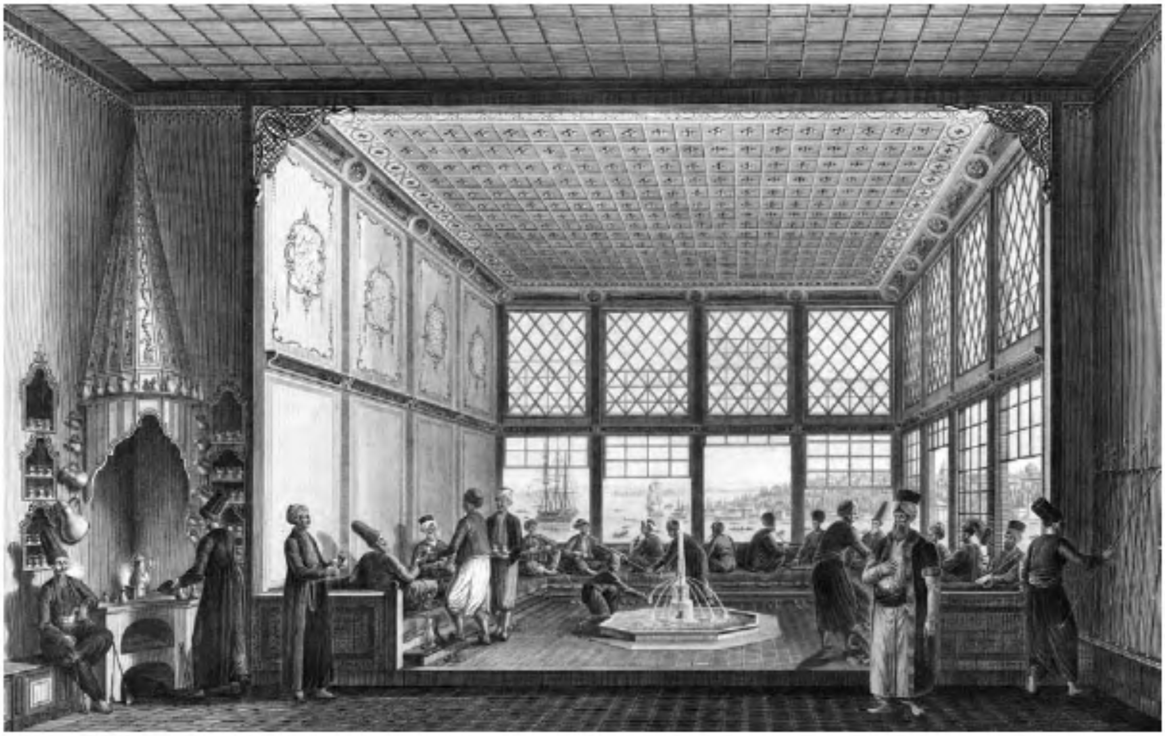

FIGURE 7.9 A *kahvehane* or Turkish coffee house in Constantinople, showing a coffee stove on the left, by Antoine Ignace Melling (1763–1831), published in Antoine Ignace Melling. 1819. *Voyage pittoresque de Constantinople et des rives du Bosphore*. Paris: Treuttel et Würtz.

reference to coffee in an originally English printed source dates from 1601 and occurs in William Parry's hostile description of the Ottoman Turks of Antioch and Aleppo. Parry was a member of the mission of Sir Anthony Sherley (1565–1630) to the Shah of Persia which had the aim of enlisting Persian support against the Turks. Sodomy and the drinking of coffee were amongst the practices which the spiteful Parry evidently found unbecoming.

> … I will ſpeake ſomewhat of the faſhion and diſpoſition of the people and country; whoſe behaviours in point of civilitie (beſides that they are damned Infidells, and Zodomiticall Mohamets) doe anſwer the hate we chriſtians doe iuſtly holde them in. For they are beyond all meaſure a most inſolent ſuperbous and inſulting people, ever more preſt to offer outrage to any chriſtian, if he not be well guarded with a Janizarie, or Janizaries. They ſit at their meat (which is ſerved to them upon the ground) as Tailers ſit upon their ſtalls, croſſe-legd: for the moſt part, paſſing the day in banqueting and carowſing, untill they ſurfet, drinking a certaine liquor, which they do call *Coffe*, which is made of ſeede much like muſtard ſeede, which will ſoone intoxicate the braine like our Metheglin.[31]

printed as *chaona* (van Linschoten 1596: 35; cf. van Linschoten 1598: 46).

31 William Parry. 1601. *A new and large diſcourſe of the trauels of ſir Anthony Sherley Knight, by Sea, and ouer Land, to the Perſian Empire. Wherein are related many ſtraunge and wonderfull accidents: and alſo, the Deſcription and conditions of thoſe Countries and People he paſſed by: with his returne into Chriſtendome. Written by William Parry Gentleman, who accompanied Sir Anthony in his Trauells*. London: Printed by Valentine Simmes for Felix Norton (p. 10).

Parry's perceptions were inaccurate. He evidently only saw ground coffee or spent coffee grinds, for he believed that coffee seeds were the size of mustard seeds. Parry also thought that coffee intoxicated its users in the same way as metheglin, which was a form of mead flavoured with herbs or spices, from the Welsh *meddyglyn*.

Tidings of Coffee Are Sent to Italy

The oldest surviving recorded report of coffee was sent to Italy in 1615 by the Roman traveller Pietro della Valle, who, after being spurned in love in Naples, was counselled by his friend Mario Schipano, a Neapolitan professor, to take up travelling as a therapy to assuage the pain of his unrequited love. Pietro della Valle embarked in Venice in June 1614, and months later, writing from Constantinople on the 7th of February 1615, he sent the account of coffee that is reproduced below. In the letter, he also announced to his friend Mario Schipano that he would bring coffee back to Italy. The interest of this passage lies in that it contains the first observations about coffee made by an Italian at a time when coffee was still quite unknown in Italy.

The passage, though quite long and rambling in style, is also valuable for what it tells us about the way that Turks drank coffee in Constantinople at this time.

> Hanno i Turchi vnª altra beuãda di color nero: e la ſtate ſi fà rinfreſcatiua, e l'inuerno al contrario: però è ſempre la ſteſſa, e ſi bee calda, che ſcotti, ſucchiandola a poco a poco, no a paſto, ma fuor di paſto per delitie, trattenimento, quando ſi ſtà in conuerſatione: nè mai ſi fa trà di loro ragunanza alcuna, doue non ſe ne beua; ſtando ſempre perciò preparato vn buon fuoco, con molte ſcodelline di porcellana piene di queſta robba: e quando è ſcaldata bene, ci ſono huomini diputati, che non fanno altro, che portare ſcodeline a tutti i circonſtanti, e dare a ciaſcuno ogni hora delle più calde; e dare anco ſemi di melloni da paſſare il tempo. E così, con ſemi di melloni, e con queſta beuanda, che chiamano Cahue, ſi và paſſando l'tempo in conuerſatione, ò che ſia in feſte publiche, ò in traſtulli priuati, le ſette, e le otto hore alla volta. Io ne beuui queſta ſtate della rinfreſcatiua co'i ſemi de'melloni, e mi piacque aſſai. Non sà quaſi di niente; & in che conſiſta il guſto, non sò: anzi chi non la sà bere, bene ſpeſſo ſi cuoce le labbra, e la lingua, con tutto ciò ſpiace, nè ſaprei dir perche. A me par di ricordarmi d'hauer letto, che gli antichi haueſſero vna coſa ſimile; e ſe è vero, può eſſer, che ſia la ſteſſa; perche in altre coſe ancora, vado trouando molti reſidui della noſtra antichità. Si fà queſta beuanda, ſe ben mi ricordo, del ſeme, ò frutto, che ſia, di vn certo albero, che naſce in Arabia, verſo la Città di Meka: e'l frutto, che produce, chiamato Cahue, donde la beuanda piglia il nome, è come bacche ouate, della grandezza di mediocri oliue; delle quali, per far la beuanda, ſi piglia taluolta ſolo la ſcorza, che è tenera, e taluolta quel di dentro, che è a guiſa di due faue. Vna di queſte, hanno opinione, che riſcaldi, e l'altra che rinfreſchi: ma non mi ſouuiene, ſe quella della ſcorza è la rinfreſcatiua, ò pur l'altra. Il modo poi di far la beuanda è queſto: O ſiano le ſcorze del frutto, ò pur le faue di dentro, ſecondo'l guſto di chi le vuole; bruciãdole, ſi fanno ridurre in vna poluere minutiſſima, e di color quaſi nero; della qual Poluere: che così bella, e fatta ſi conſerua lungo tempo, ſe ne troua quì ſempre quantità per le botteghe. Quando ſi vuol bere ſi fà bollir dell'acqua in certi vaſi fatti a poſta, che hanno becchi lunghi, e ſottili, per poterla verſare ageuolmente ne'vaſi piccioli da bere. E dopo, che l'acqua hà ben bollito vi ſi getta dentro di quella poluere del Cahue in guiſta quantità, e ſi laſcia eſſa ancora bollir con l'acqua buona pezza, tanto, che deponga ogni amarezza faſtidioſa, che facilmente haurebbe, ſe non foſſe finita ben di cuocere. Poi quell'acqua così calda, quanto però ſi poſſa ſoffrire, verſata in piccole ſcodelle di porcellana, ſi bee a poco a poco a ſorſi: hauendo già preſo il ſapore, e'l color della poluere, la quale non ſi bee, perche

FIGURE 7.10
Pietro della Valle sent the first report of coffee from Constantinople back to his native Italy on the 7th of February 1615, as depicted in an engraving by Thomas Hirschmann

reſta nel fondo del vaſo. Chi la vuol più dilicata, inſieme con la poluere del Cahue, mette anche nell'acqua buona quantità di zucchero, con cannella, e qualche poco di garofani, e rieſce allhora di ſapor gratioſiſſimo, è coſa di ſoſtanza: ma ſenza queſte dilicature ancora, co'l ſolo, e ſemplice Cahue, è pur grata al guſto, e come dicono, conferiſce molto alla ſanità; maſſimamente in aiutare la digeſtione, corroborar lo ſtomaco, e reprimer le fluſſioni de'catarri, coſe tutte molto buone. Solo dopo cena, dicono, che leua vn poco di ſonno; e per ciò ſogliono pigliarne in quella hora quei, che vogliono ſtudiar la notte. Se ne conſuma in queſte parti tanta quantità, che il Datio del Cahue, mi dicono, aſcendere a groſſiſſima ſomma di danaro. Quando io ſarò di ritorno, ne porterò meco; e farò conoſcere all'Italia queſto ſemplice, che infin'ad hora forſe

le è nuoua. E ſi ſi beueſſe cõvino, come ſi bee con acqua; ardirei di ſoſpettare, che poteſſe eſſere il Nepenthe di Homero, *a* che Helena, ſecõdo egli racconta, hebbe già da Egitto: poiche, per la via di Egitto a pũto il Cahue quà ſi conduce: e così, come quello era alleuiamento d'ogni cura noioſa; queſto ancora hoggi quì ſerue alle genti per cõntinuo trattenimento, e paſſatẽpo; cõſumandoſi, come hò detto, le hore in cõuerſatione con queſta beuanda: e cõ la meſcolanza, nel ſimpoſio, di mille diletteuoli ragionamenti, che inducono per auuẽtura ne gli animi quella obliuione de'trauagli, che il Poeta dice, che il ſuo Nepenthe cagionaua.[32]

The Turks have another drink that is black in colour, and in the summer it exerts a cooling effect, but not in the winter, but it is always the same, and it is drunk hot, and at a scalding temperature they sip it bit by bit, not at mealtimes, but outside of mealtimes just for pleasure or amusement, when engaged in conversation, and there never seems to be any occasion at which they do not drink it, as there is ever a good fire at the ready, with a lot of porcelain bowls filled with this stuff, and when it is piping hot, there are men who have no other duty than to bring around bowls of this stuff at its hottest to each of those present at any hour, and likewise to pass around melon seeds for them to pass the time with. And in this way, with the melon seeds to nibble on and with this beverage, which they call *Cahue*, they pass the time in conversation, whether this be at public feasts or in private parties for seven or eight hours at a stretch. I drank some of this cooling drink this summer with the melon seeds, and I liked it very much. I know almost nothing about it, and I do not know wherein its taste lies. And those unfamiliar with the drink often burn their lips or their tongue. Yet the drink is nonetheless pleasing, though I cannot say just why. I seem to remember having read that the people in antiquity had something similar, and if I am right about this, then maybe it could be the same thing because in other things too I find many vestiges of antiquity. If I recall correctly, this beverage is made from a seed or fruit, whatever the case may be, of a certain tree that grows in Arabia towards the city of Mecca, and the fruit which it produces is called *Cahue*, which is where the name is taken from, and they are like oval berries, about the size of medium olives, from which to make the drink. Sometimes only the rind is taken, which is tender, and sometimes they take what is inside, which has the shape of two beans. They hold the opinion that one of these parts generates heat, whilst the other cools, but I cannot recall whether it is the rind part which cools, or the inside part. Then the way to make the drink is like this: It would be either the rinds of the fruit or those very beans on the inside, then depending on what kind of taste they want to attain, they roast it and then reduce it to a very fine powder of a colour that is nearly black, and from this powder, which is quite beautiful, the drink is made, and the powder can be kept for a long time in case you cannot always find enough here in the shops. When they want to drink, they boil some water in special vessels that have been especially made for this purpose, which have long and thin spouts in order to be able to pour easily into small drinking beakers. And after the water has come to a boil, they throw in the *Cahue* powder in the right amount, and then they let this boil in the water for a good while, long enough to remove any unpleasant bitterness, which it might very well have if it has not been fully well roasted. Then this liquid

32 Pietro della Valle. 1667. *Viaggi di Pietro della Valle il Pellegrino, Con minuto ragguaglio di tutte le coſe notabili oſſeruate in eſſi, Deſcritti da lui medeſimo in 54. Lettere famliari, Da diuerſi luoghi della intrapreſa pellegrinatione. Mandate in Napoli All'erudito, e fra'più cari, di molti anni ſuo Amico Mario Schipano. Diuiſi in trè Parte. Cioè, la Tvrchia, la Persia, et l'India, Co'l ritorno in Patria, Et in queſt'vltima Impreſſione, aggiuntaui la Vita dell'Autore* (three volumes). Venetia: Paolo Baglioni (pp. 97–99).

> is poured into the little drinking bowls as hot as they can bear it, and then it is drunk little by little in small sips, having acquired the taste and the colour of the powder, which itself is not drunk because the dregs remain at the bottom of the vessel. Whoever wants to have it more delicate, together with the *Cahue* powder, they will add plenty of sugar to the water, with cinnamon and a little bit of clove, which then yields a most lovely flavour, but something substantial without all of these refinements is just straight coffee, which is good to the taste and, as they say, enhances good health, especially in facilitating digestion, fortifying the stomach and suppressing the build-up of catarrh, which are all very good things. Only after dinner, they say, it takes away sleepiness a little, so that they who are wont to take it at that hour are those who wish to study at night. If in these parts one consumes such great amounts as a true fanatic of *Cahue*, they tell me, then this would end up costing a large sum of money. When I return, I shall bring some back with me, and I shall familiarise Italy with this simple thing which until now is perhaps utterly new to her. And if it were to be drunk with wine, just as it is now drunk with water, then I would dare to conjecture that this might be the very nepenthe mentioned by Homer, which, according to his account, Helen took in Egypt, for it is by way of Egypt that we have been exposed to this *Cahue*, and so, since it is the remedy to alleviate bother and worry, it is still here today to serve people for their amusement and leisure, being taken, as I have said, during hours of conversation with this beverage, and in congregating whilst drinking together and in delightful discussions which perchance lead the mind to forget about its travails, which is the very effect which the poet said that nepenthe exerted.

In the above passage, Pietro della Valle professes not yet to know for sure whether coffee was made from the rinds of the beans or from the decorticated beans. This uncertainty is not as naïve as it sounds, for, although coffee proper is made from the husked beans, an infusion can actually be brewed from coffee bean rinds.

In recent years, a ruddy infusion of coffee bean rinds has become suddenly popular as a novelty at some international venues under the Spanish name *cáscara* 'shell, husk, peel'. The new English coinage 'coffee cherry tea' has also recently appeared to designate this infusion. Spanish *cáscara* is a translation of Arabic *qišr* قشر 'shell, husk, peel', by which name this *tisane* has long been known in the Yemen. This infusion of coffee bean rinds has a lower caffeine content than proper coffee and offers a much cheaper alternative. Like Arabic coffee, *qišr* can be flavoured with ginger, cardamom or cinnamon. In 1836, Charles Cruttenden of the Indian Navy exaggerated more than just a trifle when he reported from the Yemen that 'strange to say, though in the heart of the coffee country, coffee is never taken as a beverage, being considered as too heating'.[33] When Wilfred Thesiger first visited the Yemen in 1946, he reported that this cheaper coffee alternative was especially popular in the southern Red Sea coastal plain, Tihāmat al 'Asīr.[34]

Although Pietro della Valle promised his Neapolitan friend in his letter of February 1615 that he would bring coffee back to Italy, he did not return to Rome until eleven years later, in March 1626, after his travels to India and through the Near East. Within two decades of his belated return, however, coffee houses had already begun to open up in Italy, so that he must have witnessed them before his death in 1652. As coffee spread throughout Europe, the Turkish method of preparing coffee set the example. Meanwhile, four hundred years later, the Italians have perfected the brewing of coffee, and Italy's coffee culture has come to represent

33 Charles J. Cruttenden. 1838. 'Narrative of a journey from Mokhá to San'á by the Ṭaríḳ-esh-Shám, or northern route, in July and August 1836', *Journal of the Royal Geographical Society*, VIII: 267–289.

34 Wilfred Thesiger. 1947. 'A journey through the Tihama, the 'Asir and the Hijaz mountains', *The Geographical Journal*, 110 (4–6): 188–200.

the apogee of gastronomical sophistication. Consequently, the Italian terms *espresso, cappuccino, macchiato, caffè latte, ristretto* and *affogato* have become the current international expressions.[35]

Antique Oral Tradition vs. Modern Myth

Italy received coffee from Turkey, which received coffee from the Yemen. Turkey, the Yemen and Italy all play a key role in the first phase of the globalisation of coffee, but the ultimate origins of coffee lay in southwestern Ethiopia. The original oral traditional which preserved the knowledge about the discovery of coffee was recorded in 1671 by Antonio Fausto Naironi in a treatise dedicated to cardinal Giannicolò Conti. Cardinal Giannicolò (1617–1698) was the uncle to pope Innocent XIII (1655–1724), and his powerful Conti family spawned three other popes, i.e. Innocent III, Gregory IX and Alexander IV, as well as seven other cardinals.

By contrast, Naironi (1635–1707) was a Maronite scholar, born in the Lebanon and educated at Parma. From 1666 to 1694, he was a professor at Sapienza, where he taught Syriac and Chaldaean. His account, quoted below, records the original oral tradition, which has subsequently often been misrepresented.

35 Whilst the practice of adding milk or cream to coffee was innovated in Europe, the Kafa already used to eat coffee beans fried in butter and salted. Since 2015, Dave Asprey has been selling and propagating what he calls 'bulletproof' coffee from Santa Monica. His method of preparing coffee with added butter, ghee or oil was inspired by his being exposed to yak butter tea on a trip to the Himalayas a decade earlier. Asprey insists that the cows from whose milk the butter or ghee is made for use in this coffee must have been fed exclusively on grass. He has produced two chatty books replete with similarly unscientific claims. Perhaps the sole interesting question is whether or not buttered coffee tastes good enough to catch on (Gordy Megroz. 2015. 'Buttered coffee could make you invincible and this man very rich', *Bloomberg Businessweek*, 21 April 2015; Dave Asprey. 2014. *The Bulletproof Diet*. Emmaus, Pennsylvania: Rodale Books; Dave Asprey. 2017. *Head Strong*. New York: Harper Collins).

Conquerebatur enim quidam Camelorum, ſeu vt alij aiunt, Caprarum Cuſtos, vt communis Orientaliũ fert traditio, cum Monachis cuiuſdã Monaſterij, in Ayaman Regione, quæ eſt Arabia Felix, ſua armenta non ſemel in hebdomada vigilare, imò per totam noctem, præter conſuetum ſaltitare; Illius Monaſterij Prior curioſitate ductus, hoc ex paſcuis prouenire arbitratus eſt, & attentè conſiderans vnà cum eius ſocio locum vbi Capræ, vel Cameli illa nocte, qua ſaltitabant paſcebantur, inuenit ibi quædam arbuſcula, quorum fructibus, ſeu potius baccis veſcebantur; huiuſce fructus virtutes voluit ipſemet experiri, ideoque illos in aqua ebulliens ſtatim illorum potum noctu vigilantiam excitare expertus eſt, ex quo factum eſt, vt à Monachis quotidiè adhiberi propter nocturnas vigilas iuſſerit, vt promptiores ad noctis aſſiſterent orationes; at quia ex hoc quotidiano potu, cùm varios ac ſaluberrimos pro humana ſalute, ac bona valetudine effectus in dies experirentur, per vniuerſam paulatim regionem illam, deindè per alias Orientis Prouincias, ac Regna temporis progreſſu nouũ huius potionis genus, fortuitò, ac mirabili Dei prouidentia ea diffuſum eſt ſalubritate, vt ad Occidentales etiam, ac præſertim Europæas peruaſerit plagas.

Primus igitur huius potionis Inuentores ex Caprarum, ſeu Camelorum, vt ita dicam nutibus, ſupradictos ferunt extitiſſe Monachos Chriſtianos, vt ipſimet Turcæ fateri vt plurimum aſſolent, in quorum gratiam, animique obſequium pro illis fundunt preces, ac præſertim Turcæ illi, qui ſunt huius potionis miniſtratores, ac diſtributores, proprias enim hi, ac quotidianas habent precationes pro *Sciadli*, & *Aidrus*, quia hæc ſupradictorum Monachorum fuiſſe nomina afferunt.[36]

36 Antonio Fausto Naironi. 1671. *De Salvberrima Potione Cahve sev Cafe Nuncupata Discvrsvs Favsti Naironi Banesii Maronitæ, Linguæ Chaldaicæ, ſeu Syriacæ in Almo Vrbis Archigymnaſio Lectoris Ad Eminentiſs. ac Reuerendiſs. Principem D. Io. Nicolavm S.R.E. Card. de Comitibvs*. Roma: Typis Michaelis Herculis (pp. 15–18). An Italian translation of this account in Naironi's treat-

In 1685, Dufour provided a succinct French summary of the oral tradition recorded by Naironi.[37] The following satisfactory, albeit not meticulously precise, English rendering of the original Latin passage was provided by James Douglas in 1727.

> A certain Perſon who look'd after Camels or Goats as others report, which laſt is the common Tradition among the People of the Eaſt, complain'd to the Religious of a neighbouring Monaſtery in the Kingdom of *Ayaman*, that his Herds twice or thrice a Week not only kept awake all the Night long, but ſpent it in frisking and dancing in an unuſual manner. The Prior of the Monaſtery, led by his Curioſity to weigh this Matter ſeriouſly, concluded this muſt happen from what theſe Creatures fed upon. Marking therefore diligently that very Night, in Company with one of his Monks, the Place where the Goats, or Camels, paſtur'd when they danc'd, he found there certain Shrubs or Buſhes, on the Fruit, or rather Berries of which they fed. He reſolv'd to try the Virtues of theſe berries himſelf, and accordingly boiling them in Water, and drinking the Liquor, he found the Experience that it kept him awake in the Night. Ever afterwards he enjoin'd the daily Uſe of it to his Monks, which, by keeping them from Sleep, made them more readily and ſurely attend the Devotions that they were obliged to perform in the Night-time. The longer they continued to uſe it, the more they experienced its wholeſome Effects, and how much it every way conduced to keep them in perfect Health; and by this means it came to be in requeſt throughout the whole Kingdom: and in progreſs of time, other Nations and Provinces of the Eaſt fell into the Uſe of it.
>
> Thus, by a meer Accident, continues *Baneſius*, and the wonderful Providence of the Almighty, the Fame of its Wholeſomeneſs ſpread itſelf more and more, even to the Weſtern Parts, more eſpecially thoſe of *Europe*. The *Turks* themſelves are wont to own, that theſe Monks were the Inventors of this Liquor, and that they had the firſt hint of it from Goats and Camels; and for this Reaſon, in token of their Gratitude, when they fill out this Liquor to thoſe that buy it from them, they are uſed to pray in ſett Forms of Oraiſons for *Sciadli* and *Adrus*, which they believe were the Names of the Prior and his Companion.[38]

Douglas refers to Naironi as 'Baneſius', an epithet which in some of Naironi's other writings appears as 'Banenſis', e.g. his 1679 *Dissertatio de Origine, Nomine, ac Religione Maronitarvm*. Both epithets are adjectival forms referring to the place Ban in the north of the Lebanon, where Naironi was born. Naironi recorded the proper names of the two pastoral monks as *Sciadli* and *Aidrus*. These two forms appear to represent the proper names *al-Šādhlī* الشاذلي and *al-ʿAydarūs* العيدروس, though Naironi may have been trying to represent Aramaic versions of the same names.

Naironi named the location of the discovery of coffee as the region of *Ayaman*, i.e. the Yemen. Here the oral tradition combines two strands of possible historicity, conflating the Yemen, the country where the drinking of coffee was first popularised, and Christian Ethiopia, whence coffee beans and the coffee plant originated and whose historical shores lay only some 60 km across the Red Sea from the Yemenite port of Mocha. Was

ise was prepared by a Frisian infantry captain and published that same year as: *Discorso della Salutifera Beuanda Cahve, ò vero Cafè Del Sig.D. Favsto Nairone Banesio Maronita Traſportato Dalla Latina, alla Lingua Italiana da Er. Frederic Vegilin di Claerbergen Leuoardienſe Friſone Nob. Pall. Germ. & Capitano d'vna Compagnia di Fantaria in Friſia*. Roma: Michele Hercole.

37 Dufour (1685: 42–44).

38 James Douglas. 1727. *A Supplement to the Description of the Coffee-Tree, Lately Publiſhed by Dr. Douglas. Containing, I. The Hiſtory of the Uſe of Coffee in Aſia and in Europe. II. Of the Uſe of Coffee in the Western Parts of Europe. III. Of the Coffee-Trade. IV. Of the Choice of Coffee. V. Whether the Arabians uſe any Art to prevent the Growth of the Coffee-Plant in other Countries.* London: Thomas Woodward, at the Half-Moon over-againſt St. Dunſtan's Church, in Fleet-ſtreet (pp. 5–6).

coffee really first discovered by observing sleepless goats long ago in the Caffa kingdom? Do the two Arabic names of the tradition preserve the identities of later Sufi popularisers of coffee in the Yemen or of Yemenite Christians?

Of current relevance today is that there is no mention of any goatherd named 'Kaldi' in any historical source on coffee. This spurious name was propagated by Ukers in his 1922 book on coffee, published by the Tea and Coffee Trading Journal Company in New York.[39] In Ukers' book, a young Arabian goatherd named Kaldi, afflicted with melancholy, followed the example of his frolicking goats and ate the coffee berries from the trees. He was then observed prancing about merrily with his goats. Ukers called this story, which he had taken from a contemporaneous unnamed French source, a 'picturesque version of this legend'. He also included a fanciful illustration of 'Kaldi and his dancing goats … by a modern French artist', whose name is mentioned in the right bottom corner of the picture as Gérard.[40] Yet the ultimate French source of Ukers' fabrication has yet to be identified.

Instead of the original two pastoral monks of the oral tradition, just a single Arabian goatherd or *paftor arabs* occurs in the Latin poem entitled *Caffœum Carmen*, which was composed and read by Guillaume Massieu to l'Académie des Inscriptions in 1718,[41] but there is no Kaldi. Meanwhile one may wonder whether a misprint or a misreading of *Scialdi*, or a tyro's mistaken guess about the Latin form *caldi* or *calidi* in a piece of text such as 'De potione Afiatica, five notitia à Constantinopoli circa plantam quæ calidi potus *Coave* fubminiftrat materiam',[42] or even a play on words with Italian *caldi* could have inspired Ukers' as yet unidentified French source.

In contrast to the two possibly historical monks *Sciadli* and *Aidrus*, who discovered the effects of coffee whilst pasturing their goats in the original oral tradition, the newly invented 'picturesque' Kaldi story in Ukers' influential 1922 book subsequently inspired numerous American and international coffee enterprises to adopt the name 'Kaldi', e.g. Kaldi Gourmet Coffee Roasters, Café Kaldi, Kaldi's Coffee House and Kaldi's Coffee Roasting Company. In 1996, the Kaldi myth was repeated in Alain Stella's large coffee-table book about coffee.[43]

Today the spurious name has even reached the original coffee homeland in Ethiopia, where no such name had ever previously been recorded. Yet today enterprises such as Kaldi's Coffee and the Kaldi Coffee Estate festoon Ethiopia's commercial landscape. The story of Kaldi keeps getting retold in various ways, often with *ad hoc* embellishments. Evidently it is somehow gratifying to the teller to recount such a narrative. Many anecdotes, even when they happen to be entirely fictional, get robustly retold, and the knowledge that listeners will often not check the veracity of a good story has long been exploited by story-tellers and, often in a less benign way, by journalists, politicians and preachers.[44]

39 William Harrison Ukers 1922. *All About Coffee*. New York: The Tea and Coffee Trading Journal Company (pp. 14–15, with illustration on p. 10).

40 Ukers (1922: 10).

41 The original Latin and the French translation thereof are contained on pp. 288–305 of Augustin Théry. 1855. 'Notice sur l'abbé Massieu', *Mémories de l'Académie Impériale des Sciences, Arts & Belles-Lettres de Caen*, 1855: 258–307.

42 in the title of a work published by Ludovicus Ferdinandus Marsilius in Vienna in 1685, listed as 'De potione Afiatica, five notitia à Constantinopoli circa plantam quæ calidi potus Coave fubminiftrat materiam, cum præfatiuncula Joan. Samuel. Schoderi, ubi oftenditur Bungham Rhazis, & Bunchum Avicennæ, à fructu illo qui Arabibus dicitur *Brunn*, differe, ex quo fit Coffé. *Viennæ Auftriæ* 1685. in 12', as cited in Joannes-Franciscus Seguierius [Jean-François Séguier]. 1740. *Bibliotheca Botanica, sive Catalogus auctorum et Librorum omnium qui de Re Botanica, de Medicamentis ex Vegetabilibus paratis, de Re Ruftica, & de Horticultura tractans*. Hagæ-Comitum [The Hague]: Apud Joannem Neaulme (p. 118).

43 Alain Stella. 1996. *Le livre du café*. Paris: Flammarion, published in 1997 in English as *The Book of Coffee* by Flammarion in Paris and in German as *Das Buch vom Kaffee* by arsEdition in Munich.

44 Such proliferating bits of narrative, contagious anec-

Islamic Apologetics on behalf of Coffee

Coffee beans must first have been brought from Ethiopia to the Yemen in the middle of the 15th century. At this time, Sufi dervishes seized upon the drink as a stimulant, and the Sufis played a key role in popularising the brewing of coffee in the Yemen, which since Roman times had been known as *Arabia felix* 'happy Arabia'. In the grand scheme of things, however, the Arabs, just like the Turks, would only be intermediaries of two early episodes in the global spread of this Abyssinian tree and its bitter berries around the world. Ethiopia has been a Christian realm since the 1st century AD. However, the kingdom of Caffa in what today is southwestern Ethiopia was first converted to monophysite Christianity some time between 1586 and 1595 under the Ethiopian emperor Serṣe Dingil (*imperabat* 1563–1597).[45]

It struck Naironi, who was a Maronite, as significant that the Turks had retained a strain of oral lore recalling that coffee beans were first discovered by Christian monks tending goats, since in Ottoman times the role of the Muslims in the adoption and dissemination of the beverage was indisputably preeminent. The *Kafico* were relatively late converts to Christianity, but coffee beans from the Caffa kingdom had to travel across Christian Ethiopia before they reached the Yemen. Christianity was effectively expunged from Arabia after Mohammed's death. Yet even in the face of vindictive persecution, there is still evidence for the survival of a Christian minority in the Yemen in the 10th century,[46] and a form of Nestorian Christianity was practised on Socotra until the second half of the 17th century.

In 1699, Antoine Galland cast doubt upon the veracity of the old oral tradition. In a fit of unabashed pedantry, Galland even suggested that Naironi had an erroneous understanding of his own native language, which, contrary to Galland's assumption, appears to have been Aramaic rather than Arabic.[47] Instead, Galland accorded greater credence to an Arabic manuscript from Egypt written by a certain ʿAbd al-Qādir ibn Mohammed in the year of the Hegira 996 (i.e. AD 1587). This manuscript was at that time kept in the library of the king in Paris, and is now kept in the Bibliothèque Nationale. The aim of the writer of the text was to argue that the drinking of coffee was permitted for Muslims even though there had been attempts to suppress it, including even a fatwa condemning the use of coffee.

Obviously awarding coffee a Muslim pedigree was helpful to this aim and might help appease the disapproval of conservative clerics. The manuscript recorded several accounts which are all rather difficult to reconcile with each other, but each of which could be used to argue that drinking coffee is allowed for Muslims. One story tells that in the 15th century sheikh Jamāl ad-Dīn Abū ʿAbd Allāh Muḥammad bin Saʿīd, who originated from the village of Dhaban near Sana'a, lived in Aden but travelled to Persia, where he learnt about the beverage coffee. Upon his return, he fell ill, and his health improved when he drank coffee. Later he became a Sufi, and his coffee drinking habit was

dotes and propagandistic messages, with or without accompanying visual images, are today often designated by the term *meme* in contemporary usage. The first *avatār* of this term was coined by Richard Wolfgang Semon in 1904, but this novel popular usage of the term differs in meaning both from a meme *sensu Lugdunensi* as well as from Dawkins' semiotically naïve conception of a meme. Yet such entities form one of the central objects of study in semiotics and are also the principal instruments of memetic management (George van Driem. 2015. 'Symbiosism, Symbiomism and the perils of memetic management', pp. 327–347 in Mark Post, Stephen Morey and Scott Delancey, eds., *Language and Culture in Northeast India and Beyond*. Canberra: Asia-Pacific Linguistics; George van Driem. 2008. 'The origin of language: Symbiosism and Symbiomism', pp. 381–400 in John D. Bengtson, ed., *In Hot Pursuit of Language in Prehistory*. Amsterdam: John Benjamins).

45 Huntingford (1955: 132–134).

46 Thomas Wright. 1855. *Early Christianity in Arabia: A Historical Essay*. London: Bernard Quaritch (p. 187).

47 Antoine Galland. 1699. *De l'origine et du progrès du café: Extrait d'un manuscrit arabe de la Bibliothèque du Roi*. Paris: chez Florentin et Pierre Delaulne (p. 10 et seq.).

followed by others.[48] The same manuscript contains the second, contradictory account that coffee was first introduced by a devout Muslim scholar, ʿAlī ben ʿUmar Šādhlī.[49]

The latter name got torn into two pieces in yet a third version, which tells of a certain dervish named sheikh ʿUmar who in the year of the Hegira 656 (i.e. 1258) went on pilgrimage to Mecca with his guru, a certain mullah named Šādhlī. On the way Šādhlī died, but he later appeared to ʿUmar as a large white phantom, instructing him to go to Mocha in Yemen. When an epidemic began to rage through the city, ʿUmar took the king's sick daughter to heal her in his quarters for a number of days. When talk of improprieties began to circulate, the ruler exiled the sheikh to the arid mountains. When ʿUmar was later starving in the desert, he called out to mullah Šādhlī, and then beautiful music and the strains of songbirds led him to a coffee tree. In his hunger he plucked the berries and prepared a soup in his cave, and this is how coffee was born. When afterwards an epidemic of mange afflicted the city of Mocha, some of the city dwellers came to ʿUmar, and he cured them of their scabies by having them drink coffee. Because of his medical prowess, ʿUmar was summoned to return to the city of Mocha and built an infirmary.[50]

We are left to conjecture why these contradictory narratives, some adorned with supernatural apparitions, marred by an anachronistically early dating of events and embellished with a rather extraordinary therapy for scabies, struck Galland and some of the scholars who followed him as somehow more plausible than the old Near Eastern oral tradition recorded by Naironi. At any rate, the tendency to dismiss as apocryphal the oral tradition recorded by the Maronite scholar from the Lebanon was started by Galland. His arrogant tone of disapprobation was parroted by Jean de la Roque[51] and by James Douglas and, just like the fictitious name 'Kaldi', continues to be mindlessly echoed by some authors to the present day.[52]

In 1895, Jardin raised the rather pertinent question as to whether the pious Muslim sage ʿAlī ben ʿUmar Šādhlī who was mentioned in the Arabic manuscript might not have just been taken directly from the *Sciadli* in the original oral tradition recorded by Naironi.[53] The 1587 manuscript professes to be an apologetic work written to legitimate the drinking of coffee by Muslims, whereas the tradition committed to writing by Naironi harks back to lore that for centuries preserved the knowledge that coffee was first long ago discovered by goatherds in Ethiopia before it was first brought to the Yemen.[54]

48 Silvestre de Sacy (1806, Tome II, pp. 229–232).

49 Silvestre de Sacy (1806, Tome II, pp. 233–234).

50 This alternative version taken from a text printed in Constantinople was adduced by Silvestre de Sacy (1806, Tome II, pp. 276–278) as a corroboration of the version in the Arabic manuscript from Egypt by ʿAbd al-Qādir ibn Mohammed, studied by Galland.

51 Jean de la Roque even criticised Dufour for his credulity in reproducing the oral tradition preserved by Nairon (Jean de la Roque. 1716. *Voyage de l'Arabie Heureuse par l'Océan Oriental, & le Détroit de la Mer Rouge. Fait par les François pour la premiere fois, dans les années 1708, 1709 & 1710, avec La Relation particuliere d'un Voyage fait du Port de Moka à la Cour du Roi d'Yémen, dans la feconde Expedition des années 1711, 1712 & 1713. Un Memoire concernant l'Arbre & le Fruit du Café, dreffé fur les Obfervations de ceux qui ont fait ce dernier Voyage. Et un Traité hiftorique de l'origine & du progrès du Café, tant dans l'Afie que dans l'Europe, de fon introduction en France, & de l'établiffement de fon ufage à Paris.* Amsterdam: Steenhouwer et Uytwerf).

52 Weinberg and Bealer falsely claim that 'Kaldi' is mentioned by name in Naironi's 1671 text, which, like many other historical sources which these two authors cite, they have not consulted (Bennett Alan Weinberg and Bonnie K. Bealer. 2001. *The World of Caffeine: The Science and Culture of the World's Most Popular Drug.* Abingdon: Routledge).

53 Edélestan Jardin. 1895. *Le caféier et le café: Monographie historique, scientifique et commerciale de cette Rubiacée.* Paris: Ernest Leroux (p. 8).

54 Although similar ideas tend to occur to people at different times because of the commonalities that humans share, and even though the distorting effects of Chinese whispers or *téléphone arabe* tend often to be cumulative over time, Michael Witzel has attempted to show that certain types of robust narrative survive for millennia, outliving even the languages that served as their primary vehicles of transmission (E.J. Michael Witzel. 2012. *The Origin of the World's Mythologies.* Oxford:

FIGURE 7.11 Dutch ships at the port of Mocha as engraved by Olfert Dapper in 1680

The English First Take to Coffee and Then the Dutch

In 1616, just one year after the Roman traveller Pietro della Valle wrote from Constantinople to his friend in Naples about coffee, the Haarlem merchant Pieter van den Broecke visited the port of Mocha in the Yemen for the Dutch East India Company, at which time the Dutch were not yet trading in coffee. As a result, news of coffee reached Holland directly from the Yemen, and tidings from the Levant reached England. In London, Francis Bacon (1561–1626) wrote down what he had read, and his gleanings about coffee, tobacco, opium and betel nut were published by his chaplain in 1627, a year after Bacon's death, further piquing the English curiosity about coffee.

> They haue in *Turkey*, a *Drinke* called *Coffa*, made of a *Berry* of the fame Name, as Blacke as *Soot*, and of a *Strong Sent*, but not *Aromaticall*; Which they take, beaten into Powder, in *Water*, as Hot as they can drinke it: And they take it, and fit

Oxford University Press). By comparison, the oral tradition recorded by Naironi would be quite young on an historical time scale and of negligeable antiquity on the prehistoric time scale investigated by Witzel. The fact that the story line soon turned up in so many transmogrified guises in Arabic sources is explicable in terms of the need to bend the narrative to serve the purpose of justifying coffee as permissible to Muslims after it had been banned and even proscribed by fatwa.

> at it, in their *Coffa-Houfes*, which are like our *Tauernes*. This *Drinke* comforteth the *Braine*, and *Heart*, and helpeth *Difgeftion*.[55]

In 1628, the first 15,000 lb. of raw coffee beans were purchased at Mocha by Job Christiaenszoon Grijph, destined for sale in Persia. The Dutch East India Company continued to ship coffee to Persia until, in 1661, the first 21,481 lb. of *Mochase caeuwe* 'coffee from Mocha' were sold more profitably in Amsterdam.[56] Before this large consignment, small quantities coffee had already been reaching Holland and especially England for private use by the curious and the well to do, brought in by merchants and private individuals from the eastern Mediterranean. John Aubrey (1626–1697) recalled that in London the physician William Harvey (1578–1657), who had been educated at the University of Padua from 1599 to 1602, in his later life 'was wont to drinke coffee; which he and his brother Eliab did, before Coffee-houses were in fashion in London'.[57]

Between 1646 and 1648, a Cretan student named Nathaniel Conopius was the first to drink coffee at Oxford University,[58] and later the first coffee house in England opened not in London, but in 1650 in Oxford. As Anthony à Wood recorded:

> 1650 … This yeare Jacob a Jew opened a coffey house at the Angel in the parish of S. Peter in the East, Oxon. and there it was by some, who delighted in noveltie, drank.[59]

By this time, tea had already for decades been a *divertissement* of nobility, the curious and the well to do in Holland. Yet for some time to come, coffee was to remain considerably less expensive than tea.[60] Initially coffee evidently appealed far more to the English than did tea.

The introduction of coffee to England at precisely this juncture in history is readily explicable against the background of the relative strengths of English and Dutch maritime trade. At this time, the English were envious and aggravated by Dutch supremacy in the Baltic and in Asian trade as well as by the Dutch success in whaling in the cold northern seas around Spitsbergen. During the *Twaalfjarig Bestand* or Twelve Years' Truce (1609–1621) between the United Provinces and the Habsburgs in the southern Netherlands and the Iberian peninsula, Dutch trade in the Mediterranean also prospered. However, after the resumption of hostilities, Dutch goods were under embargo in Spain from 1621 to 1647. Meanwhile, after the Anglo-Spanish truce in 1630, the English trade with the Iberian peninsula flourished, and the English Levant trade flourished. In 1644, merchants in Amsterdam declared the Dutch Levant trade to be flailing.[61]

55 Francis Bacon. 1627 [posthumous]. *Sylva Sylvarvm: or A Naturall Hiftorie. in Ten Centvries written by the Right Honourable Francis Lo. Verulam Vifcount St. Alban Publifhed after the Authors death, By William Rawley Doctor of Diuinitie, late his Lordfhips Chaplaine*. London: Printed by J.H. for William Lee at the Turks Head in Fleetftreet, next to the Miter (Cent. VIII, Nº 738, p. 191).

56 Ewoud Sanders en Jaap Engelsman. 1996. *Geoniemenwoordenboek, woorden die zijn afgeleid van plaatsnamen* (tweede gecorrigeerde druk). Amsterdam: Nijgh en van Ditmar (blz. 158–159).

57 Andrew Clark, ed. 1898. *'Brief Lives,' Chiefly of Contemporaries, set down by John Aubrey, between the Years 1669 and 1696*. Oxford: Clarendon Press. (Vol. I, pp. 301–302).

58 Conopius had sought refuge in England after patriarch Parthenius I (*obtinebat* 1639–1644), under whom he had served, was murdered at the behest of the vizier in Constantinople in 1646. In what Woods describes as an act of 'barbarity' Conopius was expelled from the university in 1648 by sanctimonious 'parliamentarian visitors'. Later he returned to Anatolia and became bishop of Smyrna around 1651 (Anthony à Wood. 1691. 'Nathaniel Conopius', in Philip Bliss, ed. 1813. *Athenæ Oxonienses. An Exact History of all the Writers and Bishops who have had their Education in the University of Oxford. To which are added the Fasti, or Annals of the said University, by Anthony à Wood, M.A. of Merton College*. London: F.C. and J. Rivington, (Vol. IV, col. 808); cf. Jardin (1895: 17), Ukers (1922: 40–41)).

59 Anthony à Wood. 1691. 'The Life of Anthony à Wood written by himself', pp. i–cxxv in Philip Bliss, ed. (1813, Vol. I, col. xix); A Tea Dealer (1826: 92).

60 Paul Butel. 2001. *Histoire du thé*. Paris: Les Éditions Desjonquères (p. 56).

61 Israel (1997: 306–307).

In London, the first coffee house was opened two years later by Pasqua Rósee, or Rosée. A native of Ragusa, today known as *Dubrovnik*, the Greek youth Pasqua Rosée became the manservant of the English merchant Daniel Edwards of the Levant Company at Smyrna, known today as *İzmir*. Edwards, who had zealously adopted the Turkish habit of taking coffee, took the young Pasqua from Smyrna to Leghorn or *Livorno* in 1651, where they observed that coffee houses were already an established institution.[62] In fact, coffee houses had been operating in Italy at least since 1645.[63]

Pasqua and Edwards reached London in 1652. Edwards, who was originally from Stratford Bowe, moved into his house in Walbrook with his '*Greek* Servant, named *Pafqua*, who made his Coffee, which he drank two or three Difhes at a time, twice or thrice a Day'.[64] The first coffee advertisement appeared that year as a broadsheet announcing that coffee was 'Made and Sold in *St. Michaels Alley* in *Cornhill*, by *Pafqua Rósee*, at the Signe of his own Head'.[65] At this time in England as well as in the Low Countries, a wooden or stone head or *gaper*, often in the shape of a Moor's or a Turk's head with a turban, would mark the entrance to a chemist or apothecary.

Though lodged in a shed, Pasqua's enterprise thrived, prominently visible near St. Michael's Church, and Pasqua lived happily with Daniel Edwards at Walbrook. The following year, however, on the 31st of March 1653, Edwards married Mary Hodges,[66] and soon afterwards Edward's new father-in-law, the alderman Thomas Hodges, also of the Levant Company, undertook to arrange a different business partner for Pasqua. Hodges set up his coachman, Christopher 'Kitt' Bowman, as a freeman. As recorded in the testimony of the merchant Thomas Rastall of the Levant Company, Pasqua had left the house of Daniel Edwards and afterwards lived together with Christopher Bowman.

> Upon this Alderman *Hodges* joyned as a Partner with *Pafqua* one *Bowman* his Coachman, who was made Free, upon which they lived unmolefted in the fame place, where Mr. *Raftall* found them in the year 1654.[67]

Kitt and Pasqua earned enough money to move their coffee house from its original shed into a house in St. Michael's Churchyard in 1656. Yet later the two of them had a falling out, since Bowman 'had already in his mind another and a different kind of partnership'.[68]

Bowman married Alderman Hodge's cook maid and opened a rival coffee booth directly across the street from Pasqua's coffee house. Whilst Pasqua's establishment was marked with his own head, the new coffee booth across the street sported a coffee pot.[69] This public rift between the two young men was poignant enough to elicit a poem from one of Pasqua's well-wishers. Writing under the pseudonym of Adrianus del Tasso, the poet lamented the ingratitude of the illiterate coachman and penned heartening verses of solace and encouragement in support of Pasqua.[70] With his earnings, the unfaithful coachman managed in time to convert his booth into a proper house as well, but by

62 Edward Forbes Robinson. 1893. *The Early History of Coffee Houses in England, with Some Account of the First Use of Coffee and a Bibliography of the Subject*. London: Kegan Paul, Trench, Trübner & Co. (p. 86).

63 Germain-Étienne Coubard d'Aulnay. 1832. *Monographie du café ou manuel de l'amateur du café*. Paris: Chez Delaunay (p. 28); Jardin (1895: 16).

64 John Houghton. 1699. 'A Difcourfe of Coffee, read at a Meeting of the Royal Society, by Mr. John Houghton, F.R.S., June 14th, 1699', *Philosophical Transactions of the Royal Society of London*, XXI: 311–317.

65 The original advertisement is photographically reproduced in Ukers (1922: 55) and is, in fact, undated. Consideration of various other known facts led Ukers and others to infer that the broadsheet in all probability dates from 1652; Clark (1898, Vol. 1, p. 110).

66 W. Bruce Bannerman and W. Bruce Bannerman, eds. 1919. *The Registers of St. Stephen's, Walbrook and of St. Benet Sherehog, London* (Part I). London: Roworth and Company (p. 63).

67 Houghton (1699: 313).

68 Robinson (1893: 91).

69 Houghton (1699: 313), Robinson (1893: 90).

70 The poem is reproduced in Douglas (1727: 29–30).

1663 Bowman had died of consumption. He left everything to his widow, and Pasqua subsequently 'took refuge in Holland'.[71]

Unlike the English at this time, people in Holland still preferred to drink tea.[72] Whilst tea was already being consumed by all those who could afford it in the United Provinces, the first coffee house in Holland was opened only in 1664 by a writer named van Essen on the Korte Voorhout in The Hague. Ukers suspected that this new establishment is precisely where Pasqua went that year.[73] If so, Pasqua's move to The Hague was timely. Not only was his partner, turned rival, now dead and buried, the part of the city where they had run their business together was soon afterwards destroyed by the Great Fire of London in September 1666. Consumers in the Dutch republic took to coffee. A coffee shop opened in Amsterdam in 1671,[74] and soon others opened elsewhere. Although tea and coffee would always happily coexist in the Netherlands, coffee would in time overtake tea as the most popular caffeine drink. By this time, the Dutch Levant trade had, since the Peace of Münster in 1648, recovered and become robust once again, quickly overshadowing the English maritime trade in coffee.

Meanwhile in England, a good number of public coffee houses had established themselves during the Interregnum, and coffee is already first mentioned in English statute books in 1660, the year of the Restoration, specifying a duty of fourpence on every gallon of coffee made and sold, to be paid by the maker. The Excise Act of 1660 levied a tax on coffee house keepers for coffee, chocolate and tea, with tea then still representing quite a novel commodity for Londoners. After the Restoration, the popularity of coffee houses grew exponentially. By 1663 there were 82 coffee houses in London, and by 1675 around a thousand coffee houses flourished in the capital. The explicit sexual connotations which the drinking of coffee had acquired in England at this time have already been discussed in the section entitled the 'Persian interlude' at the end of Chapter Five. In Britain, the coffee trend had begun to transform social life so radically that the king was made to feel insecure.

On the 29th of December 1675, Charles II promulgated the Proclamation for the Suppression of Coffee Houses which had become the gathering places of Whigs, adherents of the new anti-Stuart party, and which the king therefore viewed as seminaries of sedition. By this Proclamation it was forbidden 'to keep any Public Coffee House, or sell by retail, in his, or her or their house or houses (to be spent or consumed within the same) any Coffee, Chocolate, Sherbet, or Tea'. After a great public outcry, it became manifestly clear that this move was going to result in real upheaval, and he suspended the proclamation by a second one within a fortnight, on the 8th of January 1676, by which the coffee shops were permitted to stay open another six months, after which time both proclamations were soon largely forgotten.[75]

Coffee was spread throughout the Mediterranean by the Venetians, and coffee was imported to Italy from before 1638.[76] In the south of France, both coffee and coffee brewing equipment were known at Marseille as early as 1644. However, when it came to coffee, Parisian consumers were not yet as adventurous as those in London and Holland. Writing from Constantinople in August 1640, du Loir reported with delight about coffee, but he also demonstrated his previous unfamiliarity with the beverage.[77] Melchisédech Thévenot first intro-

71 Robinson (1893: 90), Houghton (1699: 313).
72 Blankaart (1683).
73 Ukers (1922: 43, 54).
74 'A Amſterdam, le nommé Iean Ainſvvort, vend ce breuvage dépuis cette année avec grande approbation du public …' (Dufour 1671: 28).

75 John Ellis. 1774. *An Hiſtorical Account of Coffee, with An Engraving, and Botanical Deſcription of the Tree, to which are added Sundry Papers relative to its Culture and Uſe, as an Article of Diet and of Commerce.* London: Edward and Charles Dilly (p. 14); Gervas Huxley. 1956. *Talking of Tea.* Ivyland, Pennsylvania: John Wagner and Sons (p. 78).
76 Douglas (1727: 26).
77 du Loir. 1654. *Voyage dv sievr dv Loir contenv en plvsievrs Lettres écrites du Leuant, auec pluſieurs particularités qui n'ont point encore eſté remarquées touchant la Grece,*

duced coffee from Turkey to Paris in 1657, where he treated his friends, including the king's Arabic interpreter François Pétis de la Croix to the new brew.[78] Nicolas de la Mare recorded that coffee only became available in Paris after 1660, decades after the English had acquired the habit of taking coffee from their trade with the Turks.[79]

Jean de la Roque reported that the sojourn in Paris of the embassy of sultan Mehmet IV to the king of France, which lasted from July 1669 to May 1670, familiarised some of the aristocracy and *haute bourgeoisie* with the beverage. However, in Paris the public at large remained quite reluctant to try this new drink. Intriguingly, de la Roque tells us the story of a certain Pascal the Armenian, who suddenly showed up in Paris in 1672.

> Enfin on vit arriver en cette ville le nommé Paſcal, Armenien de Nation, lequel en l'année 1672, s'aviſa de debiter du café publiquement, à la Foire Saint Germain; enſuite il ſe fixa dans une petite boutique ſur le Quai de l'Ecole, où il donnoit le café pour deux ſols six deniers la taſſe; mais on ne voyoit gueres chez lui que quelques Chevaliers de Malte, & de Etrangers, en forte que cet Armenien fut obligé de quitter, & de ſe retirer à Londres.[80]

> One day a fellow named Pascal, who was an Armenian by origin, showed up in this city in the year 1672 and undertook to sell coffee publicly at the Foire Saint-Germain. Afterwards he set himself up in a tiny shop on the Quai de l'École, where he sold coffee by the cup for a twopence and a halfpenny, but you hardly saw any customers there except for some Knights of Malta and a few foreigners, so that in the end this Armenian was compelled to leave and withdraw to London.

Before opening up his coffee house on the quai de l'École, which since 1868 has been called quai du Louvre, Pascal ran his coffee stall in the alley connecting the end of the rue de Tournon to the foire St. Germain.[81] He had his two 'Armenian' waiters, Grégoire and the Sicilian Procopio, wear Turkish or 'Armenian' garb.[82]

Edward Forbes Robinson advanced the intriguing conjecture in 1893 that Pascal the Armenian might have been the very same person as the Ragusian Greek Pasqua, who 21 years before had been picked up by the English merchant Daniel Edwards in Smyrna and who had later fled from London to Holland in 1663 or 1664.[83] Several years after Pascal set up shop in 1672, another 'Armenian' named Maliban opened a café in the rue de Bussy,[84] where his customers were also able to purchase and smoke tobacco. After Pascal left for London and Maliban left for Holland, Pascal's former waiters opened their own cafés in Paris. Grégoire took over Maliban's café in the rue de Bussy, and later moved to where the rue Guénégand meets the rue Mazarine.[85] Francesco Procopio first ran coffee stalls in the now no longer extant rue Mercière at

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& la domination du Grand Seigneur, la Religion & les moeurs de ſes Suiets. Paris: François Clovzier (pp. 169–170).

78 Ellis (1774: 12).

79 Nicolas de la Mare wrote: 'Le caffé eſt le fruit d'un arbre qui croît dans l'Arabie heureuſe … Les Anglois l'ayant appris des Turcs par le moyen du commerce, commencerent de s'en ſervir environ l'an 1616. Il en paſſa en France vingt ans après, mais il n'y fut bien frequent, & l'on n'en vit des boutiques à Paris, qu'environ l'an 1660' (1719, tome III, p. 797, col. 1–2).

80 de la Roque (1716: 318–320).

81 The rue Lobineau did not exist at this time, and the rue de Seine did not extend further south than the rue de Bussy, today written rue de Buci. The gateway to the foire St. Germain where Pascal operated his stall ran over what today is the easternmost portion of today's rue Lobineau, whilst the portion of today's rue de Seine that now runs between the rue de Lobineau and the rue Saint-Sulpice at that time still formed the end portion of the rue de Tournon.

82 Louis Langlès. 1811. *Voyages du chevalier Chardin en Perse, et autres lieux d'Orient* (nouvelle édition). Paris: Le Normant (p. 280); Elizabeth David. 1994 [posthumous]. *Harvest of the Cold Months: The Social History of Ice and Ices* (Jill Norman, ed.). London: Michael Joseph.

83 Robinson (1893: 85–86).

84 The street is today called rue de Buci.

85 G.A. Schwarzkopf. 1881. Der Kaffee in naturhistorischer,

FIGURE 7.12
Willem van Oudthoorn, governor general of the Dutch East Indies, oversaw the first unsuccessful planting of coffee to Java in 1696 and the first successful planting of Javanese coffee in 1699, Rijksmuseum Amsterdam

the foire St. Germain. Later Procopio opened a café in 1689 across from the old Comédie Française, and this venue later became the celebrated historical café Procope.[86]

The Wine of the Sufis Becomes a Global Commodity

In 1658, after the last Portuguese fort on the island at Jaffnapatnam had been overcome, the Dutch started the cultivation of coffee in Ceylon.[87] The Dutch under Rijcklof Volckertsz. van Goens captured Coulão or Quilon (*Kollam* കൊല്ലം) in Kerala from the Portuguese in December 1661. When the Malabar coast came under the governance of the Dutch East India Company in 1663, the Dutch transplanted coffee to Cannanore (*Kaṇṇūr* കണ്ണൂർ). The Malabar coast was first governed by Batavia, but in 1669 Kerala was made a separate commandment by the Dutch East India Company, which it remained until 1795.[88]

diätetischer und medicinischer Hinsicht. Weimar: Bernhard Friedrich Voigt (pp. 105–107).

86 Coubard d'Aulnay (1832: 30–31); Théry (1855: 307).

87 Ukers (1922: 6).

88 In 1795, Kerala was ceded to Britain by *stadthouder* Willem v (*obtinebat* 1751–1806) on behalf of the United

FIGURE 7.13
Nicolaes Witsen (1641–1717), who masterminded the plan to set up coffee plantations in Java, portrayed in 1677 at the age of 36 as a member of the Amsterdam city council, 16 × 25.6 cm, copper engraving by Johannes Willemsz. van Munnikhuysen, contained in the posthumous 1785 edition of Witsen (1705)

The governor general of the Dutch East Indies, Willem van Oudthoorn (*obtinebat* 1690–1701), oversaw the first unsuccessful planting of coffee to Java at Kedawoeng in 1696 as well as the first successful planting of coffee in Java three years later, in 1699. The first failed attempt involved plants sent from the plantations at Cannanore by the *commandeur* of the Dutch East India Company in Malabar, Adriaan van Ommen (*obtinebat* 1694–1696). The second attempt in 1699, which was successful, involved plants sent from Cannanore by Hendrick Zwaardecroon, who at that time was still the *commissaris* of Malabar for the Dutch East India Company.

These coffee trees were planted both around the Dutch headquarters at Batavia and in the highlands of Priangan, now written Parahyangan, under the sultan of Cirebon, thus giving rise to all

Provinces by an instruction issued from Kew Palace in order to prevent Kerala from falling into the hands of the invading revolutionaries of the French republic.

of the coffee plantations in the Dutch East Indies.[89] The production of the Dutch coffee plantations in Java flourished under governor general Abraham van Riebeeck (*obtinebat* 1708–1713). Born at the Cape of Good Hope, this man was the son of Jan van Riebeeck, who had founded the Cape Colony on the 6th of April 1652.

Until 1707, the Yemen was the exclusive source of coffee in Europe, and Mocha was the port from which most of the coffee was exported,[90] but in 1706 the first sample of Java coffee was sent to Amsterdam for appraisal. Soon afterwards, in 1711, the first *Javaansche coffy* 'Javanese coffee' went on sale in the United Provinces.[91] In his index of plants at the Leiden University botanical garden,[92] Herman Boerhaave fulsomely credited Nicolaes Witsen, the burgomaster of Amsterdam,[93] with being the mastermind behind orchestrating the transplantation of coffee from Malabar to Java as well as having the first coffee trees brought from Java to the botanical garden in Amsterdam. In 1713, the ageing Witsen gifted two coffee plants to the Amsterdam botanical garden, which became the progenitors of most of the coffee cultivated in Central and South America.

One of the two plants, which at the time was five feet tall and an inch thick at the base, was given in 1714 by the magistrates of Amsterdam under glass to Louis XIV at the royal garden at Marly. Afterwards, Antoine de Jussieu, the king's professor of botany, had it transferred to the *Jardin des Plantes* in Paris.[94] Seedlings from this plant were thirteen years later transplanted to the French West Indies. In 1718, the Dutch began growing coffee in Suriname in the Dutch West Indies with the seedlings from the other remaining coffee plant in the Amsterdam botanical garden.[95] Already by 1725, Java had surpassed the Yemen in coffee production, and the Dutch East India Company dominated two thirds of the global coffee trade. Of the 4 million pounds traded by the Company in 1726, well over half was produced in Priangan.[96]

The Dutch commercial success promptly triggered competition. The French began growing coffee in Martinique in the French Antilles in 1727, whence coffee went to Cayenne in French Guiana, and the British first planted coffee in Jamaica in 1728.[97] The first coffee trees were planted in Brazil at this time as well, but not until October 1732 was a royal order issued in Lisbon to Joaquim Serra, the governor of Grão Pará e Maranhão, to set up coffee plantations.[98] The French coffee adventure, however, began with an episode of veritable buccaneering. The *Compagnie française pour le commerce des Indes orientales* or French East India Company had been created in 1664, but had previously not been a prominent presence in African and Asian waters. In the years 1710, 1711 and 1714, three expeditions to Mocha were launched from St. Malo, the first with two ships, *Le Curieux* and *Le Diligent*, each armed with fifty cannons. Sailing around the Cape of Good Hope to Mocha, these three expeditions attacked and looted Dutch and British vessels on the way, seizing booty and tak-

89 Gerrit-Jan Knaap. 1986. 'Coffee for cash: The Dutch East India Company and the expansion of coffee cultivation in Java, Ambon and Ceylon', pp. 33–49 in J. van Goor, ed., *Trading Companies in Asia, 1600–1830*. Utrecht: H&S Uitgevers (p. 34).

90 It is unclear when Mocha came to denote coffee with an admixture of chocolate. The union of coffee with chocolate is a heavenly alliance.

91 Sanders en Engelsman (1996: 159).

92 Hermann Boerhaave. 1727. *Index alter Plantarum quae in Horto Academico Lugduno-Batavo aluntur*. Leiden [Lugduni Batavorum]: apud Janssonios van der Aa (vol. 2, p. 217).

93 Between 1682 and 1706, Witsen was elected mayor of Amsterdam thirteen times.

94 Ellis (1774: 16).

95 Ellis (1774: 17).

96 Knaap (1986: 40).

97 Benjamin Moseley. 1785. *A Treatise concerning the Properties and Effects of Coffee*. London: John Stockdale (p. 22); Benjamin Moseley. 1785. *Observations on the Properties and Effects of Coffee. London*: John Stockdale (p. 13).

98 José Eduardo Mendes Ferrão. 2015. *Le voyage des plantes & les Grandes Découvertes* (*XVe-XVIIe siècles*). Paris: Éditions Chandeigne (pp. 329–330).

FIGURE 7.14
Jean-Baptiste Colbert, marquis de Seignelay (1619–1683), as portrayed in 1655 by Philippe de Champaigne (1602–1674)

ing hostages, so that their trade in coffee appeared at times merely to have been a secondary aim.[99]

In 1715, sixty coffee trees were given to the French in the Yemen as a gift for Louis XIV, who died just days before the twenty plants that ultimately survived the voyage were planted on the island of Bourbon. The celebrated *café Bourbon* descends from these plants, and the first coffee exports from the *île de Bourbon* went to France in 1726.[100] The decline of *café Bourbon* on Réunion, as the island was renamed in 1793, was not just due to the invasion of the coffee blight *Hemileia vastatrix*, which only appeared on the island in 1882. In 1817, the coffee yield on Réunion still exceeded 3,000 tonnes, but by 1850 it was the commercial success of sugar cane that had essentially killed off the island's once considerable coffee production.[101] Yet the seedlings of Bourbon coffee trees had been successfully transplanted to many other countries such as Mozambique. Today coffee is grown in most countries of the African, Asian and American tropics with adequate rainfall, and even in Fiji, Vanuatu, New Caledonia and northern Australia.

99 Stella (1996: 24–30).
100 Coubard d'Aulnay (1832: 112–117).
101 P. Guérin. 1908. 'Le café', *Revue Scientifique* (*Revue Rose*), cinquième série, tome x: 486–494.

FIGURE 7.15
On the corner of the Koltschitzkygasse and the Favoritenstrasse, a metallic statue of Jerzy Franciszek Kulczycki by Emanuel Pendl immortalises an ahistorical legend about the introduction of coffee to Vienna

Coffee Comes to Vienna, Whilst Fashions Change in the West

This entire process of the globalisation of coffee was first set into motion when coffee spread from the Ottoman realm to the West, first to Italy and then to northern Europe, where the first coffee shop opened in Oxford in 1650, in The Hague in 1664 and in Paris in 1672. The glorious Viennese coffee tradition is of even later date, and, unlike in England, Holland and France, the Austrians did not acquire their coffee through maritime trade but overland. In Austria, there is a robust myth, just as persistent as the fabricated Kaldi story, about a Polish officer named George Franz Koltschitzky or, in Polish, Jerzy Franciszek Kulczycki, who introduced coffee to the liberated Viennese after the successful repulsion in September 1683 of the Turkish siege.

The siege was broken with the aid of the Polish forces sent by king Jan III Sobieski, and for his heroic deeds Kulczycki was regarded with gratitude by the Viennese. Yet Kulczycki neither opened nor ran a coffee house in Vienna after the siege. Nonetheless a metallic statue of Kulczycki stands in Vienna on the corner of the Koltschitzkygasse

and the Favoritenstrasse, which depicts a mustachioed man serving coffee from a coffee pot held in his right hand and holding a coffee service on a tray in his left hand. The statue, executed by Emanuel Pendl and commissioned by the coffee shop owner Franz Zwirina, was unveiled on 12th of September 1885, just three years after the former Liniengasse had been renamed the Koltschitzkygasse in honour of the Polish legend.

In truth, Vienna's first *Kaffeesieder* was the Armenian trader Johannes Diodato. This Diodato or Theodat, alias Hovhannes Astvatsatur, born in Constantinople about 1640, visited Vienna as an adolescent and later came to settle in Vienna, where he would ultimately become the patriarch of the Armenians living in the city. By way of belated historical acknowledgement, a tiny park on the Schäffergasse was named after Johannes Diodato on the 7th of November 2003. Diodato's trading company was commissioned to secure silver for the imperial mint when supplies dried up after Leopold I, the Holy Roman emperor (*imperabat* 1658–1705), expelled the Jews from Vienna in 1669. Although Diodato did not succeed in this mission, he later performed valuable courier services during the siege of the city. In recognition of these services, he was granted permission in January 1685 to open the first Viennese coffee house on the Haarmarkt at the site of today's Rotenturmstrasse 14.

When Diodato came to be suspected of involvement in a case of espionage and corruption, he left Vienna and stayed in Venice from 1693 to 1701. Four Armenians ran his coffee house for him when he was gone. Upon his return, he discovered that a second Viennese coffee house had been opened in December 1697 by Isaac de Luca, also an Armenian. This second coffee house did good business, and its fame would later fuel the Koltschitzky myth. The Koltschitzky story arose in the 19th century, when the person of Isaac de Luca became confused in the collective memory with Kulczycki, hero of the siege of Vienna.[102] The myth gained popularity just as Viennese coffee houses became the preferred venues for writers, artists, scientists, philosophers and politicians.

At the time that the citizens of Vienna first familiarised themselves with coffee in Diodato's coffee house, the relative popularity of coffee and tea began to change in Holland, England and France. From the mid 17th century, England had experienced a veritable coffee craze, whilst tea remained the high fashion amongst patricians of the affluent United Provinces and amongst the aristocracy and bourgeoisie in France. In the last quarter of the 17th century, however, the tables began to turn. Just as Holland had eclipsed Portugal as a maritime power in Asian waters a century earlier, Britain overtook the Netherlands, gaining supremacy on the high seas. Dutch fortunes began to change, and England grew increasingly wealthy.

During this time, the more affordable coffee began to supersede tea in popularity in the United Provinces as well as in France, where a small bowl of often somewhat diluted coffee called *un bol de café* or *un grand bol de café* would in time become an indispensable and delightful part of the French breakfast. Writing in Dordrecht in the early 1720s, Valentyn noted that, though coffee drinking had first established itself in England, coffee had meanwhile become an indispensable commodity to all echelons of Dutch society.

> Deze drank, nu zoo algemeyn in ons land doorgebroken, dat de meyden en naeiſters nu ſmorgens hare Coffi moeten hebben, of de draad wil door het oog van de naald niet ...[103]

> This drink, now in such widespread use throughout our country that even the maids and seamstresses must now first have their coffee in

102 Karl Tepy. 1980. *Die Einführung des Kaffees in Wien: George Franz Koltschitzky, Johannes Diodato, Isaak de Luca* (*Forschungen und Beiträge zur Wiener Stadtgeschichte* 6). Wien: Verein für Geschichte der Stadt Wien.

103 Valentyn (1726, *Vyfde Deel*, blz. 190).

> the morning, lest their thread not be able to pass through the eye of the needle …

The popularity of coffee spread into the Teutonic hinterland, and Johann Sebastian Bach, who occasionally directed a musical ensemble at Zimmermann's coffee house in Leipzig, in 1734 wrote his well-known coffee cantata 'Schweigt stille, plaudert nicht' (BWV 211), in which he poked fun at those who imbibed coffee intemperately.

Towards the end of the 17th century, the aristocratic fashion of drinking tea in France was already no longer as much *de rigueur* as it had hitherto been, as noted by Pomet in 1694.

> Le Thée … étoit auffi fi en usage il y a quelques années en France, qu'il y avoit fort peu de gens de Qualité ou de bons Bourgeois, qui n'en priffent; mais depuis que le Caffé & le Chocolat ont été connu en France, on ne s'en fert prefque plus.[104]

> Tea also enjoyed so much popularity for a number of years in France that there were very few persons amongst the aristocracy and the bourgeoisie who did not partake of it, but ever since coffee and chocolate have become known in France, tea is hardly used.

Tea had been the delightful indulgence of Dutch patricians and French high society at a time when tea was yet little known in England. The first coffee house opened at Oxford in 1650, and by 1700 there were two thousand in London alone. Yet in the last quarter of the 17th century, tea, which was the costlier and finer commodity, began to overtake coffee in popularity in England.

In the 17th century, coffee was the least costly of the three great exotic beverages, and tea was the most expensive, with chocolate selling at an intermediate price. Arguably this is still the case today if we take as our premiss for comparison good unadulterated coffee, fine chocolate and tea of the highest grade as our standard of comparison. Pure high-grade green teas from Sūzhōu, Hángzhōu or the highlands of Formosa still sell at prices varying between 60 to 600 Chinese yuán for 50 g, whereas the highest grades of chocolate or coffee sell for less. On the other hand, the burnt hay of CTC tea in many shops and supermarkets today is decidedly the cheapest, cheaper than either coffee or chocolate, but products such as English tea had not yet been invented in the 17th century. This was still the time of fine Chinese teas.

Taking tea in England became both an obsession and an enduring rage. Yet the tea being taken was all Chinese tea, for it would not be until the 1850s that the special English style tea was invented. When Alice sat down to the mad tea party in Lewis Carroll's *Alice's Adventures in Wonderland*, which first appeared in 1865, she received no tea, although she was at first offered wine, and later the Mad Hatter even impertinently proclaimed that 'it's always tea time', which for some tea lovers is no doubt true.

> "Take some more tea," the March Hare said to Alice, very earnestly.
>
> "I've had nothing yet," Alice replied in an offended tone, "so I can't take more."
>
> "You mean you can't take *less*," said the Hatter: "it's very easy to take *more* than nothing."[105]

If Alice had actually got some tea to drink in 1865, the tea would almost certainly have been from China. As late as 1866, still well over 90 % of all tea consumed in Britain was Chinese tea.[106] It is sobering, therefore, to reflect that the tea that seduced the British nation and provided succour and brilliance to British social life for two centuries was not

104 Pomet (1694, Livre V, p. 144). In this pharmocological compendium, the passages on tea, coffee and chocolate are as follows: 'Le Thèe', Livre V, chapitre V, pp. 143–145; 'Du Caffé', Livre VII, chapitre XIII, pp. 204–205; 'Du Cacaos', Livre VII, chapitre XIV, pp. 205–206; 'Du Chocolat', Livre VII, chapitre XV, pp. 206–207.

105 Lewis Caroll. 1865. *Alice's Adventures in Wonderland*. London: Macmillan and Co. (p. 106).

106 Lydia Gautier. 2006. *Le Thé*. Genève: Aubanel (p. 38).

FIGURE 7.16 Alice at the mad tea party, where the Mad Hatter proclaims that 'it's always tea time', as depicted in the artwork of John Tenniel in the first edition of *Alice's Adventures in Wonderland* in 1865

even like the tea that Britons have now been drinking since the late 19th century, after the conclusion of the Second Opium War.

Good to the Last Dropping

The civet cat is not a cat, and in fact the civet cat is not any specific animal in particular. Rather, the name civet or civet cat has since the 16th century been applied to a number of different mammalian species of the Viverrid family that are native to different parts of tropical Africa and tropical Asia. What these animals have in common is their diminutive stature, general shape and the pungent musky secretion of a buttery exudate from their perineal glands. The substance itself is called civet and is prized for its usefulness in perfumery, but in the past civet was valued primarily for its purported medicinal qualities. Tidings of civet had reached Europe by the time of Henry the Navigator, and the first civet obtained directly from the African coast was brought back to Europe from the Gambia in 1456 by one of Henry's young seamen, the Venetian mariner Alvide da Ca' da Mosto, and at the same time also by the Genovese mariner Antoniotto Usodimare.[107]

The civet was sold under the name *algália* in small glass bottles at high prices in Portugal, where these animals were called *gatos de algália* 'cats of civet'. Initially, this rare product was available

107 G.R. Crone. 1937. *The Voyages of Cadamosto and Other Documents on Western Africa in the Second Half of the Fifteenth Century*. London: The Hakluyt Society (p. 69); Giuseppe Carlo Rossi. 1944. *Navegações de Luiz de Cadamosto a que se ajuntou a Viagem de Pedro de Cintra, capitão portuguez, Traduzidas do Italiano*. Lisboa: Instituto para a Alta Cultura.

FIGURE 7.17
A *luwak* or Asian palm civet *Paradoxurus hermaphroditus*, shown contentedly munching on coffee beans at Ajie Prananda's Pawon Luwak Coffee near Pawon temple at Borobudur

in northern Europe from Arabia by way of northern Italy. Consequently, the English name *civet* comes not from the Portuguese, but via the Latinate Italian *zibettum* or *zibethum* from Arabic *al-zabād* الزباد 'civet'. In the decades after the Portuguese first reached Calicut in 1498, Portuguese and Dutch traders learnt that civet was also available in India and Southeast Asia, although the substance was derived from the perineal glands of different Viverrid species.[108] Civet was one of the niche products which was traded in small quantities by the Dutch East India Company from its very inception.[109]

On the island of Java, the preferentially nocturnal civet *Paradoxurus hermaphroditus* is known in Javanese as the *luwak*, formerly spelt *loewak*, and in English as the toddy cat or the Asian palm civet. After the Dutch coffee plantations began to flourish in the highlands of Priangan in the first decade of the 18th century, coffee planters soon discovered that the beans of their lucrative cash crop were sometimes ingested by the *luwak*, when they found their coffee beans turning up in the droppings that the civets left behind. The planters wondered whether the *luwak* had perhaps imparted the pungent flavour of civet to the coffee. Experimenting revealed that the taste of the coffee brewed from the recovered beans had indeed been affected by the passage of the beans through the alimentary

108 Karl H. Dannenfeldt. 1985. 'Europe discovers civet cats and civet', *Journal of the History of Biology*, 18 (3): 403–431.

109 Izak Prins. 1936. 'Gegevens betreffende de "oprechte Hollandsche civet"', *Economisch-Historisch Jaarboek*, 20: 3–211; Jonathan Irvine Israel. 1990. *Empires and Entrepots: The Dutch, the Spanish Monarchy and the Jews, 1585–1713*. London: The Hambledon Press (pp. 427–428).

canal of the civet. However, they had not acquired the scent of civet. Instead, proteolytic enzymes in the gut of the civet had rendered the coffee less bitter and subtly modified its flavour and aroma. Today microscopy also shows us that the surface of the beans is minutely pockmarked by the action of the gastric juices of the civet.[110]

The idea occurred to an entrepreneurial coffee planter to market this rare variety of coffee at an appropriately exorbitant price, but the adventuresome clientèle for this extraordinary commodity has always constituted a tiny and perennially ephemeral niche market, since demand often tends to fade once the initial curiosity has been satisfied.[111] Today *loewak koffie* or *kopi luwak* is still produced and sold as a specialty coffee. Since the dawn of European colonial expansion, civet cats have had to endure much suffering at the hands of civet traders. Unfortunately for civet cats, the demand for civet persists, whilst the demand for civet coffee has inspired emulation in Vietnam, the Philippines, Thailand and Ethiopia.

In Vietnam, the same species of civet is used as in Indonesia, and civet coffee is called *cà phê chồn* 'weasel coffee'. Civet coffee is called *kape alamid* in Tagalog, and the civet used in Philippine civet coffee production is the closely related species *Paradoxorus philippinensis*. The species fed coffee beans in Thailand include both the Asian palm civet *Paradoxurus hermaphroditus* and the masked palm civet *Paguma larvata*, both of which are commonly simply called *chámót* ชะมด 'civet' or by the northern term *iːhěn* อีเห็น 'civet'. In Ethiopia, the species used to produce civet coffee is the African civet *Civettictis civetta*, also exploited for civet extraction.[112] Some entrepreneurs strive to make *kopi luwak* in a humane manner, by offering the captive civets balanced diets and keeping them in increasingly capacious or semi-open enclosures. Hopefully, the proportion of kind and ethical entrepreneurs will increase in the *kopi luwak* business.

The *kopi luwak* idea inspired the Canadian entrepreneur Blake Dinkin, who since October 2012 has produced 'Black Ivory Coffee' in northern Thailand. His coffee beans are ingested by elephants and then pass through their gastrointestinal tract. Dinkin takes good care of his elephants, who are nourished with wholesome diets in which coffee beans figure as a relatively minor constituent. Dinkin's elephants enjoy the good company of other elephants and lead an easy and healthy life, whilst the coffee beans that have been recovered from their droppings have already sold for as much as 30,000 Thai baht per kilo.[113] What would Pietro della Valle have thought if he were to have known that the beans of this prized tree of the Ethiopian highlands—four centuries after he had written his famous letter of 1615 from Constantinople—would be consumed by Asian elephants in the north of Siam, only to be meticulously retrieved from their dung and then carefully roasted in order to brew an extraordinarily expensive variety of coffee?

110 Massimo F. Marcone. 2004. 'Composition and properties of Indonesian palm civet coffee (*kopi luwak*) and Ethiopian civet coffee', *Food Research International*, 37 (9): 901–912.

111 There is a libellous myth that *luwak* coffee was discovered by Javanese peasants who had been begrudged any access whatsoever to coffee beans by avaricious Dutchmen until the *luwak* made the beans available to them in his droppings. The Vietnamese version of the myth involves deprived Vietnamese peasants longing to taste the coffee that stingy Frenchmen had withheld from them.

112 Yilma Dellelegn Abebe. 2003. 'Sustainable utilisation of the African civet (*Civettictis civetta*) in Ethiopia', pp. 197–208 in Bihini Won wa Musiti, ed., *2nd Pan-African Symposium on the Sustainable Use of Natural Resources in Africa*. Gland: International Union for Conservation of Nature and Natural Resources; Daniel Wondmagegne, Bekele Afework, M. Balakrishnan and Belay Gurja. 2011. 'Collection of African civet *Civettictis civetta* perineal gland secretion from naturally scent-marked sites', *Small Carnivore Conservation*, 44: 14–18.

113 Blake Dinkin, personal communication 29 March 2016; ⟨http://the-elephant-story.com/pages/black-ivory-coffee⟩.

FIGURE 7.18 Washed coffee beans recovered from elephant dung to produce Black Ivory Coffee
COURTESY OF BLAKE GARRETT DINKIN

Europeans Discover the Drink of the Aztecs and the Mayans

Unlike tea and coffee, chocolate comes from the New World tropics. Chocolate together with avocados, maize, chilli peppers, cashews, vanilla beans, the various species of annona fruits including custard apple, cherimoya and the soursop,[114] the passion fruit, peanuts, papayas, pineapples, potatoes, tomatoes, cassava alias tapioca alias manioc, the sunflower, the sweet potato *Ipomoea batatas*, achiote, the guava, the Jerusalem artichoke,[115] the sieva or lima bean, scarlet runner bean and common bean, not to mention tobacco, rubber, the physic nut, agaves and quinine, all form part of the Columbian package of cultigens that quickly went global after a fleet of ships under the command of Pedro Álvares Cabral made landfall in Brazil in April 1500 and claimed the country for the Portuguese crown. The Spaniards, in sequel to their earlier explorations in the Caribbean, invaded and began colonising the South and Central American mainland that same year.

114 The soursop *Annona muricata*, or *zuurzak* 'sour sack' in Dutch, was introduced to the Dutch East Indies, not altogether surprisingly, by the Dutch, which accounts for its various Indonesian names *sirsak* 'zuurzak', *durian belanda* 'Dutch durian' and *nangka belanda* 'Dutch jackfruit'.

115 The English name is quite misleading, since the plant is not a type of artichoke, and the plant has nothing to do with Judæa. The name 'artichoke' derives from an observation made by Samuel de Champlain during his second voyage to Acadia (*peregrinabatur* 1604–1607) that the taste of these tubers reminded him of the flavour of artichoke. The epithet 'Jerusalem' derives from an English bastardisation of the Italian *girasole* 'sunflower' because the flowers are somewhat similar. The origin of the French name for the plant, *topinambour*, is just as convoluted (cf. Mendes Ferrão 2015: 195–196).

FIGURE 7.19
Sun-dried cacao nibs, also called cacao beans, from central Java

The Olmecs, Aztecs and Mayans cultivated, traded and consumed cacao beans, even using the cacao nibs as currency. Cacao was drunk under various guises and incorporated into an array of drinks and gruels, but cacao was most usually taken as a frothy drink prepared from finely ground cacao beans mixed with water, added sparingly, and then churned or poured back and forth from vessel to vessel until the cacao drink had become a foamy liquid. The beverage was drunk from hemispherical bowls and sometimes flavoured with chilli to give the cacao a pleasant burn, or thickened with ground maize or with the finely ground seeds of the silk cotton tree *Ceiba aesculifolia*, which in Nahuatl is referred to as *pochotl*, not to be confused with the related but distinct species *Ceiba pentandra*. Whereas the Mayans of the Yucatán preferred to drink their cacao hot, the Aztecs in the valley of México preferred to drink their cacao cool. In Mayan religion and iconography, the hot cacao drink and human blood were symbolically associated. Cacao was then and continues today to be employed in numerous rituals. Drinking vessels of the Classic Mayan period were often adorned with the epigraph for 'cacao', consisting of the Mayan fish glyph *ka*, preceded by the doubling diacritic and followed by the syllabic glyph *wa*.[116]

Cacao beans were first seen by Columbus and his crew on his fourth voyage to the New World in July 1502, when they encountered a very large Mayan trading canoe at the island of Guanaja, some 40 km north of the northern coast of Honduras. This first sighting of cacao beans by Europeans was recorded by Columbus' second son Fernando (1488–1539), who was nearing his fourteenth birthday at the time that these observations were made. Fernando recorded the episode years later in a manuscript which, after his death, passed through several hands before being translated from Castillian into Italian by Alfonso de Ulloa in Venice, where the manuscript was published in 1571.

116 Sophie Dobzhansky Coe and Michael Douglas Coe. 1996. *The True History of Chocolate*. London: Thames & Hudson; Simon Martin. 2006. 'Cacao in ancient Maya religion: First fruit from the maize tree and other tales from the underworld', pp. 154–183 in Cameron L. McNeil, ed., *Chocolate in Mesoamerica: A Cultural History of Cacao*. Gainesville: University Press of Florida; David Scott. 2006. 'The language of chocolate: References to cacao on Classic Maya drinking vessels', pp. 184–201 in McNeil (op.cit.).

FIGURE 7.20
Botanical illustration of *Theobroma cacao* by Berthe Hoola van Nooten. 1880. *Fleurs, fruits et feuillages choisis de l'île de Java, peints d'après nature* (*troisième édition*). Bruxelles: Librairie Européenne C. Muquardt.

... volle la ſua buona ſorte, che vi ca pitaſſe allhora vna Canoa tanto lunga, come vna galea, & larga VIII *piedi, tutta di vn legno ſolo, e ſimile di forma alle altre, la quale venia carica di mercantie dalle parti Occidentali verſo la nuoua Spagna. Queſta nel mezo al di dentro hauea vn volto fatto di foglie di palma, non diuerſo da quelli, che portano in Vinegia le gondole, & da' Vinitiani ſon detti felzi; il qual riparaua ſi color, che v'erano ſotto, che ne pioggia, ne fortuna potea bagnar coſa alcuna di quelle, che v'hauea dentro. Sotto questo volto ſtauano i figluoli, & le dõne, & tutte le bagaglie, & la mercatãtia, & gli huomini, che il legno guidauano, ancor che foſſero* XXV*: i quali non hebbero animo di defenderſi contra le barche, che li ſeguirono. Preſa adunque la Canoa ſenza contrasto da' nostri ... per loro vettouaglie portauono delle radici, & grano, che mangiano quelli della Spagnuola, & vn certo vino fatto di Maiz, che è ſimile alla Ceruoſa d'Inghilterra, & molte di quelle mandorle, che hanno quelli della nuoua Spagna per moneta; le quali parue che eglino anco haueſſero in grande ſtima, percioche, quando con le coſe loro fur nella naue poſti, io notai, che cadendo alcuna de queste mandorle, ſubito ſi piegauano tutti a pigliarla, come ſe lor foſſe caduto vn'occhio: nel qual tempo parea, ch'ancor di ſe steſſi non poteſſero ricordarſi, vedendoſi trar prigioni dalla lor Canoa nella naue fra gente coſi ſtrana, & feroce, come ſiamo noi, riſpetto a loro ...*[117]

117 Fernando Colombo. 1571. *Historie Del S.D. Fernando Colombo; Nelle quali s'ha particolare, & vera relatione*

By sheer good fortune, a canoe appeared that was as long as a galley and eight feet wide, made from just one single tree trunk, but otherwise similar to other canoes in shape, loaded with merchandise for trade from the western parts of New Spain [i.e. Mexico]. Amidships there was a shelter made of palm leaves, not very different from the ones found on the gondolas of Venice, and which the Venetians call *felzi*, and which sheltered everything in such a way that neither rain nor tempest could get wet whatever was beneath it inside. Underneath this shelter were the children, the women, the wares and the merchandise. The men who were conducting the vessel, even though they were twenty-five strong, did not have the mettle to defend themselves from the ships that were pursuing them. So the canoe was easily taken without any resistance … For their victuals they carried such tubers and grains as are also eaten in Hispaniola and a certain wine made from maize which is similar to the ale of England, and many of those almonds which in New Spain are used as money, and which they appeared to hold in high esteem, for when they were brought on board of our ships along with their wares, I observed that whenever one of these almonds would fall, they would all stoop to pick it up, as if they had lost an eye, and at such a time it appeared as if they had forgotten themselves, though they had been taken from their canoe as prisoners on board our ship, amongst people who are as alien and fierce as we are unto them.

The manuscript contains a few anachronisms which, in view of its history, are easily explicable. Only after invading the Yucatán in 1517 would the Spaniards come to realise that these almond-shaped beans also served as currency, as recorded, in the second letter of Hernán Cortés to the emperor Charles V, written on the 30th of October 1520.

> … cacap, que es una fruta como almendras, que ellos venden molida, y tiénenla en tanto, que se trata par moneta en toda la tierra, y con ella se compran todas las cosas necesarias en los mercados y otras partes.[118]

> cacao, which is a fruit like almonds, which they sell ground, and also keep as such, which then serves as money throughout the land, and with which they buy all necessary things in the markets and elsewhere

However, Fernando did not yet know this when he first witnessed cacao beans in 1502. Moreover, Mexico was not yet called New Spain in 1502, but of course the country was already called New Spain by the time that the manuscript was first translated and published in Venice in 1571, over thirty years after Columbus' second son had died.

A more complete account of the cacao bean is provided by the count palatine Pietro Martire d'Anghiera, chronicler commissioned by emperor Charles V, in his book on the newly discovered lands in the Americas, which Martire d'Anghiera became the first to call the 'New World' in print. Below is the original passage, written some time between 1521 and 1523 and then published in 1530, followed by the version 'Englifhed' by Michael Lok in 1612.[119]

> Ex arboreis qvibufdam fructibus, noftris amigdalis fimilibus, quos Cachaos nuncupant, eorum effe currentem dixi monetam. Eius eft vtilitas duplex, monetæ officio fungitur & potui confi-

della vita, & de' fatti dell Ammiraglio D. Christoforo Colombo, fuo padre: Et dello fcoprimento, ch'egli fece dell'Indie Occidentali, dette Mondo Nvovo, hora poffedute dal Serenifs. Re Catolico: Nuouamente di lingua Spagnuola tradotte nell'Italiana dal S. Alfonfo Vlloa. Venetia: Apreffo Francefco de' Francefchi Sanefe (pp. 199–201).

118 Don Pascual de Gayangos, ed. 1866. *Cartas y Relaciones de Hernan Cortés al Emperador Carlos V.* Paris: Imprenta Central de los Ferro-Carriles A. Chaix y Cª (p. 94).

119 The fifth decade was not included in the first English translation of Pietro Martire d'Anghiera's work, done by Rycharde Eden and published in London by William 'Guilhelmus' Powell in 1555.

FIGURE 7.21 The Aztecan capital *Tenochtitlan* in the *Lago de Texcoco*, destroyed in 1521 by Hernán Cortés, whose writings maniacally brim with references to *oro* 'gold', depicted in a coloured engraving from Georg Braun, Simon van den Neuvel & Frans Hogenberg. 1572. *Civitates Orbis Terrarvm*. Antverpiae: apud Aegidium Radeum (I, 58). This portrayal is based on a map of the city prepared for Cortés one year before he starved the inhabitants during a siege, murdered the survivors and and then laid waste to the city, contained in *Praeclara Ferdinandi Cortesii de Nova Maris Oceani Hispania Narratio, Sacratissimo ac Invictissimo Carolo Romanorum Imperatori Semper Augusto, Hispaniarum & Regi Anno Domini* MDXX *transmisa*, published in Nürnberg in 1524 by Fridericus Peypus.

FIGURE 7.22
Montezuma, alias Moctezuma II (1466–1520), from *Istoria della conquista del Messico, della popolazione, e de' progressi nell'America Settentrionale conofciuta fotto nome di Nuova Spagna* by Antonio de Solís (1699, illus. facing p. 246)

ciendo apta eft amigdala, per fe non eft comeftibilis, quoniam amariufcula, licet tenera, vti amigdala fpoliata. Sed trita feruatur ad potum & pulueris illiꝰ portione confecta in aquam, mox reuoluta parum per poculum efficitur rege dignum. O fœlicẽ monetam, quę fuauẽ, vtilemq; præbet humano generi potum & a tartarea pefte auaritiæ fuos immunes feruat poffeffores, quod fuffodi, aut diu feruari nequeat.[120]

I Haue heeretofore faid that their currant money is of the fruits of certaine trees, like our almonds, which they call *Cachoas*. The vtility and benefit thereof is two fould: for this almonde fupplieth the vfe of monie, and is fit, to make drink, of it felfe it is not to be eaten, becaufe it is fomewhat

120 Pietro Martire d'Anghiera. 1530. *De Orbe Nouo Petri Martyris ab Angleria Mediolanenfis Protonotarij Cefaris Senatoris decades*. Compluti [Alcalá de Henares]: Apud Michaele[m] d[e] Eguia (Petri Martyris Quartę decadis Caput quartum, fol. lxi).

FIGURE 7.23
Freshly extracted cacao nibs, still covered in sweet white mucilaginous pulp, which exudes a light citrussy aroma
COURTESY OF NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

> bitter, although tender, as a blaunched almond. But being bruiſed or ſtamped in a morter, it is kept for drinke, a portion of the powder whereof being caſt into water, and then ſtirred about a little, drinke is made thereof, fitte for a king. O bleſſed money, which yeeldeth ſweete, and profitable drinke for mankinde, and preſerueth the poſſeſſors thereof free from the helliſh peſtilence of auarice, becauſe it cannot be long kept, or hid vnder grounde.[121]

The use of cacao nibs as money is also reported by the Jesuit José de Acosta in 1590.

> Sirue tambien de moneda, porq̃ con cinco cacaos ſe compra vna coſa, y con treynta otra, y con ciẽto otra, ſin que aya contradicion. y vsan dar de limoſna eſtos cacaos a pobres que piden.[122]

> It also serves as money because you can buy one thing for five cacao nibs, another for thirty and yet another for a hundred without any contradiction arising, and they also give them as alms to the poor who ask for them.

The Jesuit was amazed by the use of cacao nibs as money, and just as much by the fact that goods were bartered even more often than they were purchased with cacao nibs, whereas he observed that gold was abundant but used by the Indians merely for ornamental purposes.[123]

Bernal Díaz del Castillo (ca. 1492–1584) recorded how Montezuma (*regnabat* 1502–1520) famously received Cortés at *Quiauiſatlan* or Quiahuitzlan, where he was treated to *mucho cacao, que es el mejor coſa que entre ellos beben* 'lots of cacao, which is the best thing that they have to drink amongst themselves'. Here Cortés was famously served cacao in golden cups. The Aztecs were honouring their guests with the precious liquid, whilst their guests were obsessed with the metal out of which the vessels were made in which they were being served their welcome drink. In fact, the writings of the Spaniards at this time are absolutely brimming with innumerable references to the *oro* 'gold' of the Aztecs which they so intensely coveted and soon enough managed to acquire.

121 Peter Martyr a Millanoiſe of Angleria [i.e. Pietro Martire d'Anghiera]. 1612. *De Nouo Orbe, or The Historie of the weſt Indies, Contayning the actes and aduentures of the Spanyardes, which haue conquered and peopled thoſe Countries, inriched with varietie of pleaſant relation of the Manners, Ceremonies, Lawes, Gouernments, and Warres of the Indians*. London: Thomas Adams (f. 195^{r}).

122 Ioſeph de Acoſta. 1590. *Historia Natvral y Moral delas Indias, en qve se tratan las cosas notables del cielo, y elementos, metales, plantas, y animales dellas: y los ritos, y ceremonias, leyes, y gouierno, y guerras de los Indios*. Impreſſo en Seuilla en caſs de Iuan de Leon (p. 251).

123 de Acoſta (1590: 198–203).

FIGURE 7.24 The *criollo* cultivar of cacao, with the kind permission of Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

Traianle frutas de todas quantas auia en la tierra, mas no comia ſino muy poco, y de quando en quando traian vnas com copas de oro fino, con cierta bebida hecha del miſmo cacao, que dezian era para tener acceſſo con mugeres: y entonces no mirauamos en ello; mas lo que yo vi, que traian ſobre cincuenta jarros grandes hechos de buen cacao con ſu eſpuma, y de lo que bebia: y las mugeres le ſervian al beber con gran acato, y algunas vezes al tiempo de comer eſtauan vnos Indios corcouados muy feos, porque eran chicos de cuerpo, y quebrados por medio los cuerpos, que entre ellos eran chocarreros; è otros Indios que deuian de ſer truhanes, que le dezian gracias, y otros que le cantauan, y baylauan, porque el Monteçuma era aficionado á plazeres, y cantares, è â aquellos mandaua dar los relieues, y jarros de cacao …[124]

They brought forth fruits of all kinds as there are in the country, but [Montezuma] ate but a little, and from time to time they served him goblets of fine gold in which was a certain drink made of that same cacao, which they said was for enhancing one's performance with women, though we did not undertake to pursue that matter, but what I saw was that they brought out about fifty large pitchers made with good cacao and its froth, and he drank of that, and the ladies served it to him with great deference, and sometimes whilst eating some very ugly hunchbacks, whose bodies were just the size of a boy's, and who were half deformed, would come in and play the jester and act like buffoons, which pleased him, and others would sing and dance for him because Montezuma was much given to merrymaking and song, and then he commanded that the pitchers of cacao be given to them in reward.

During his travels in Mesoamerica between 1541 and 1556, Girolamo Benzoni tasted the native drink

124 Bernal Díaz del Castillo. 1632 [posthumous]. *Historia Verdadera de la Conqvista de la Nueva-España Escrita Por el Capitan Bernal Diaz del Caſtillo, vno de ſus Conquiſtadores*. Madrid: en la Imprenta del Reyno (Capitolo XXXXVI, f. 31r; Capitolo LXXXXI, f. 68v).

FIGURE 7.25
The *forastero* cultivar of cacao, with the kind permission of Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

made from cacao beans and wrote about his experience. At first the Milanese traveller was reluctant to taste cacao, *il quale più pare beueraggio da porci, che da huomini* 'which appeared to be more a drink for pigs than for people'.[125] After overcoming his initial hesitation and even being laughed at by the Aztecs for his gastronomical parochialism, he was able to report that …

> *Il fuo fapore è alquanta amaro, fatia, & rinfrefca il corpo, però non imbriaca, & questa è la migliore, & più cara mercantia, che gl'indiani stimano, doue la costumano.*[126]

> Its taste is somewhat bitter, but it satisfies and refreshes the body, yet does not inebriate, and this is the best and dearest merchandise in the eyes of the Indians, whence they have acquired the custom of taking it.

Yet Benzoni was probably not the first European to try cacao, for we have the testimony of the Jesuit José de Acosta that amongst the Spaniards, it was the Spanish women in Mexico in particular who were ardent drinkers of the black chocolate brew.

> El principio beneficio defte cacao es, vn breuaje que hazen q̃ llaman Chocolate, que es cofa loca lo que en aquella tierra le precian, y algunos q̃ no eftan hechos a el, les haze afco: porque tiene vna efpuma arriba, y vn borbollon como de hezes, q̃ cierto es menefter mucho credito para paffar con ello. Y en fin es la beuida preciada, y con que cobidan a los feñores q̃ vienen, o paffan por fu tierra los Indios: y los Efpañoles, y mas las Efpañolas hechas a la tierra fe muerẽ por el negro chocolate. Efte fobredicho chocolate dizen, q̃ hazen en diuerfas formas y tẽples, caliẽte, y frefco, y tẽplado.[127]

> The main benefit of this cacao is a beverage which they make called Chocolate, which is a crazy thing which they value in that country, and those who are unfamiliar with it, hold it in disgust because there is froth on top and a foam that is like scum, though this froth is in fact considered to improve the brew. So this is the highly esteemed beverage which the Indians offer to the lords that come and pass through their land. The Spaniards, and even more so the Spanish women, are ready to die for this black chocolate. They say that they make the afore-mentioned chocolate in different ways, lukewarm, hot or cool, or warmed up.

125 Girolamo Benzoni. 1572. *La Historia del Mondo Nvovo*. In Venetia: Ad inftantia di Pietro, & Francefco Tini, fratelli (f. 103v).

126 Benzoni (1572, f. 104r).

127 de Acofta (1590: 251).

FIGURE 7.26
The pod of *Theobroma angustifolia*, from which a distinct variety of cacao can be produced
PHOTO BY NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

Here José de Acosta already uses the word *chocolate* in Spanish, and we can see that the Spaniards had already learnt from the Aztecs in New Spain that cacao could be drunk at various temperatures, hot or cold, lukewarm or warmed up.

Long before the Europeans had come to the New World, the species had already differentiated into the better tasting Central American *criollo* cultivar and the higher yielding South American *forastero* cultivar, both of which and their hybrids are commercially exploited today. The hybrids are sometimes referred to collectively as *trinitario*. Theobromine residues and ancient DNA some five millennia old, recovered from an archaeological site in southeastern Ecuador, together with the finding that the locus of greatest genetic diversity of wild *Theobroma cacao* lies in the upper Amazon region appear to indicate that this savoury cultigen may first have been domesticated in northwestern South America rather than in Central America.[128]

The tiny white flowers on the mature stems of the plants are pollinated by midges and then produce large yellow or magenta coloured pods. When the golden brown cacao beans are extracted from the cacao pods, these seeds, beans or 'nibs' are still embedded in a slimy white pulp. The nibs are removed together with the pulp and allowed to ferment, during which time the nibs germinate. As the temperature is increased to between 45° and 50°C, the germinated nibs die and much of the white pulp liquefies and is drained off.

Both the germination of the nibs and the subsequent fermentation are important to ensure good taste. Afterwards the beans are dried in the sun for anywhere from a week to a fortnight, during which time the enzymatic processes initiated during fermentation continue and the nibs lose slightly more than half their weight in moisture. The dried beans are roasted at temperatures between 99° and 121°C, after which the thin shells

128 Sonia Zarrillo, Nilesh Gaikwad, Claire Lanaud, Terry Powis, Christopher Viot, Isabelle Lesur, Olivier Fouet, Xavier Argout, Erwan Guichoux, Franck Salin, Rey Loor Solorzano, Olivier Bouchez, Hélène Vignes, Patrick Severts, Julio Hurtado, Alexandra Yepez, Louis Grivetti, Michael Blake and Francisco Valdez. 2018. 'The use and domestication of Theobroma cacao during the mid-Holocene in the upper Amazon', *Nature Ecology & Evolution*, 29 October 2018, pp. 1–10.

FIGURE 7.27 The flower of marmoset cacao, *Theobroma angustifolia*
PHOTO BY NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

are winnowed off. After the roasted beans have been ground, the resulting substance is referred to in the trade today as cacao liquor.[129]

The Aztecs did not call this commodity 'chocolate', however. The Nahuatl word appears in early colonial sources invariably as *cacauatl* or *cacahuatl*, i.e. [kaˈkáwatɬ] ⟨cacaua-atl⟩ 'drink made from cacao'. This term was borrowed into Spanish as *cacao*, in which form the word entered most other European languages, although in England the form *cacao* got transmogrified to *cocoa*. Nahuatl is the Uto-Aztecan language spoken by the Aztecs, whom the Spaniards encountered in central Mexico. The Nahuatl word *cacaua* derives from an ancient root that is reconstructible as **kakawa*, denoting the species which Linnæus named *Theobroma cacao*, in which the genus name literally meant 'food of the gods'.

The globalised species *Theobroma cacao* is not the only source of cacao. Another species called 'marmoset cacao' or 'emerald cacao', *Theobroma angustifolium*, is also cultivated for cacao production. Brunner has reported that in the southern Mexican state of Chiapas marmoset cacao is grown in preference to *Theobroma cacao*.[130] On the other hand, Nicholas Hellmuth stresses the extreme rarity of the species in Guatemala and calls out for measures to rescue the species.[131] In his 1871 survey of eighteen species of the genus *Theobroma*, Gustav Bernouilli expressed the view that marmoset cacao was probably native to south-

129 Coe and Coe (1996: 23–25); McNeil (2006).

130 Bryan R. Brunner. 2014. '*Theobroma angustifolium* Mocino & Sesse', ⟨www.montosogardens.com⟩.

131 Nicholas Matthew Hellmuth. 2016. 'A third cacao species for chocolate? Was *Theobroma angustifolium* available in Guatemala before the Spanish arrived?', *FLAAR Reports 2016*. Guatemala: Foundation for Latin American Anthropological Research.

FIGURE 7.28 The pod of *Theobroma bicolor*, known as *pataxte* and used for centuries to produce a distinct variety of cacao
PHOTO BY NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

FIGURE 7.29
The flower of *Theobroma bicolor*
PHOTO BY NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

FIGURE 7.30
Flower and immature fruit of the *kapok* or silk cotton tree *Ceiba aesculifolia*, known in Nahuatl as *pochotl*, photo Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

FIGURE 7.31
The spiky bark of the *pochotl* tree, photo Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

FIGURE 7.32 The ripe seed pods of the *pochotl* tree contain a fluffy floss known as *kapok* used for stuffing cushions, photo Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

FIGURE 7.33 The oily seeds within the *kapok* are ground and mixed with an equivalent amount of ground cacao nibs to make the drink that was referred to by the Aztecs as *chocolatl* [ʧoˈkolaːtɬ], photo Nicholas Matthew Hellmuth, Foundation for Latin American Anthropological Research, Guatemala

ern Central America, where it grows in the wild, although the species can be found throughout Central America. The species is known as *cacao de mico* 'marmoset cacao' in Costa Rica.[132]

Yet another form of cacao was made by the Mayans and Aztecs from a related but quite distinct species, *Theobroma bicolor*, known by the name of *pataxte*.[133] This species is found in Guatemala, where Bernouilli reported in 1871 that he had not observed *pataxte* in the wild, only as a cultivated tree. However, *Theobroma bicolor* occurs in the wild in other parts of Central America, and in the Mexican state of Chiapas the species is referred to as *cacao de monte* 'mountain cacao'. It is not known whether the fruit pod of yet a fourth species, *Theobroma microcarpa*, was ever harvested or used by the Olmec, Aztecs and Mayans, but its fruit pods resemble miniature cacao pods in shape.[134] Except for *Theobroma cacao*, the many other species of the genus are today faced with extinction in the face of deforestation, habitat destruction and increasing monoculture, and the conservation of these

132 Karl Gustav Bernouilli. 1871. 'Uebersicht der bis jetzt bekannten Arten von *Theobroma*', *Neue Denkschriften der allgemeinen Schweizerischen Gesellschaft für die gesammten Naturwissenschaften—Nouveaux Mémories de la Société Helvétique des Sciences Naturelles*, XXIV, 3. Beitrag, 16 Seiten und 7 Abbildungen.

133 Johannes Kufer and Cameron L. McNeil. 2006. 'The jaguar tree (*Theobroma bicolor* Bonpl.)', pp. 90–104 in McNeil (op.cit.); Nicholas Matthew Hellmuth. 2010. 'Cacao vs. pataxte', *Revue, Guatemala's English-language Magazine*, 19 (10): 18–17, 58 [The page numbering in this issue runs … 16, 17, 18, 17, 18, 19 … The article begins on the first of the two pages numbered 18].

134 Bernouilli (op.cit.).

and numerous other indigenous species of Central America is a matter of utmost urgency.

Whether the ancient root **kakawa*, which has been assigned a putative date of about 1000 BC by some linguists, is an originally Uto-Aztecan etymon or just an early loan word from an ancient Mixe-Zoquean source language is a matter of controversy amongst historical linguists.[135] The Aztec term *chilcacauatl* was defined by Alonso de Molina in 1571 as the specific term for a *beuida de cacao con chilli* 'drink made from cacao and chilli'.[136] By contrast, it was strictly speaking the adulterated frothy beverage that was made from equal parts of ground cacao beans and the ground oily seeds of the silk cotton tree *Ceiba aesculifolia* that was referred to by the Aztecs as *chocolatl* [ʧoˈkolaːtɬ],[137] and this is the direct source of Spanish *chocolate*, used by the Jesuit de Acosta in the passage quoted above.[138]

135 Terrence Kaufman and John Justeson. 2006. 'The history of the word for "cacao" and related terms in ancient meso-America', pp. 117–139 in McNeil (op.cit.); Martha J. Macri. 2009. 'Tempest in a chocolate pot: Origin of the word cacao', pp. 17–26 in Louis Evan Grivetti and Howard-Yana Shapiro, eds., *Chocolate: History, Culture and Heritage*. Hoboken, New Jersey: John Wiley & Sons.

136 Alonso de Molina. 1571. *Vocabvlario en lengva caftellana y mexicana, compuefto por el muy Reuerendo Padre Frav Alonso de Molina, dela Orden del bienauenturado nueftro Padre fant Francifco*. Mexico: En Cafa de Antonio de Spinofa (Vol. 2, f. 20ᵛ, col. 2).

137 *chocolatl*—'chocolat, aliment fait, en portions égales, avec les graines de cacao et celles de l'arbre appelé *pochotl*' (Rémi Siméon, 1885. *Dictionnaire de la langue nahuatl ou mexicaine, rédigé d'après les documents imprimés et manuscrits les plus authentiques*. Paris: Imprimerie Nationale, p. 95).

138 The floss of the other Central American silk cotton tree species, *Ceiba pentandra*, is not as white as that of *Ceiba aesculifolia* and sometimes shows a smudged brownish appearance. The oily seeds of *Ceiba pentandra* may also have been used in the same alimentary combination. Neither are to be confused with the Asian silk cotton tree *Bombax ceiba*, from which the floss known in Malay as *kapok* is derived (Mirtha Cano and Nicholas Matthew Hellmuth. 2008. *Sacred Tree Ceiba, Mayan Ethno-Botany, June 2008*. Guatemala: Foundation for Latin American Anthropological Research; Nicholas Matthew Hellmuth. 2011. '*Ceiba pentandra*, sacred tree for Classic Maya, national tree for Guatemala today', *Revue, Guatemala's English-language Magazine*, 20 (1): 14–15, 100; Nicholas Matthew Hellmuth. 2013. *Ceiba aesculifolia*. Guatemala: Foundation for Latin American Anthropological Research).

Cacao Comes to Europe and Asia

In 1544, the first cacao appears to have been taken to Europe by a Mayan delegation organised by the Dominican friars. These Mayan nobles presented the cacao beans and other commodities of the Yucatán to the then adolescent prince Philip in the Escorial. The first commercial shipment of cacao beans made its way from Veracruz to Seville in 1585.[139] Soon after the first cacao beans had arrived in Spain, the privileged echelons of the church hierarchy took to indulging in the new beverage. A century later, in his diatribe of 1664, cardinal Francesco Maria Brancaccio (1592–1672) reassured the faithful, upon the authority of no one less than the famous Basque theologian Martín de Azpilcueta (1491–1586), that the devout can fast piously, yet may still drink chocolate freely because imbibing cacao does not constitute a break in one's fast.

> …fed chocolatis potio non eft eiufmodi, confequens ergo eft, quòd non violet Ieiunium … Martinus Azpilcueta confultus ex mandato Gregorij XIII. fapientiffimam, ac rationibus corroboratam edidit refolutionem approbantem, Chocolatem nõ frangere Ieiunium, quam per extenfum affert …[140]

> … but chocolate is not a drink of that kind, so that, as a consequence, it does not violate the fast … Martín de Azpilcueta, when consulted by the command of Gregorius XIII, issued the most wise resolution, supported by many arguments, approving that chocolate does not break the fast …

139 Coe and Coe (1996: 130, 133).

140 Francesco Maria Brancaccio. 1664. *Francisci Mariæ Cardinalis Brancatii, de Chocolatis Potv diatribe. Prælo subiecta, Instante Dominico Magro Melitenfi, Canonico Theologo Ecclefiæ Cathedralis Viterbienfis*. Romæ: Per Zachariam Dominicum Acfamitek à Kronenfeld, Vetero Pragenfem (pp. 14, 23).

FIGURE 7.34
The famous Basque theologian Martín de Azpilcueta (1491–1586), who decreed that drinking cacao was permitted during fasting, as depicted in a 24.1 × 17.5 cm copperplate engraving contained in: Antoine Lafréri & Antonio Salamanca. 1566. *Illvstrivm Ivreconsvltorvm Imagines Qvae Inveniri Potvervnt ad Vivam Effigiem Expressae: Ex Musaeo Marci Mantuae Benavidij Patavini iureconsulti clarißimi*. Romae: Ant. Lafrerij Sequani formis (Herzog August Bibliothek, Wolfenbüttel)

Since cacao beans were regarded by the Mayans and Aztecs as a nutritious foodstuff, and the fresh beans do, in fact, contain from 40 % to 50 % fat, between 14 % and 18 % protein and from 12 % to 14 % carbohydrates,[141] the sage resolution of the Basque theologian turns out to have been rather accommodating to fasters.

The Florentine merchant Antonio Carletti and his son Francesco Carletti, the world traveller whom we also encounter elsewhere in this tale of tea, discovered chocolate during their visit to Spain in 1606, and Antonio Carletti brought this Mesoamerican commodity back to Italy. Chocolate spread from Spain and Italy as a beverage to the rest of Europe. Cacao drinkers in Europe experimented with flavourings. Some of these flavourings had already been used by the Aztecs and Mayans, such as achiote seeds, chilli and vanilla beans, but other flavourings would have been unfamiliar to the Mesoamericans, such as anise, cinnamon, almonds and hazelnuts.

An early Spanish recipe for the preparation of chocolate was recorded in 1631 by Antonio Colmenero de Ledesma.[142] This Andalusian physician's traditional recipe or *modus faciendi* requires one hundred well roasted cacao nibs, from which

141 Robert Rucker. 2009. 'Nutritional properties of cocoa', pp. 943–946 in Grivetti and Shapiro (op.cit.).

142 António Colmenero de Ledefma. 1631. *Cvrioso Tratado de la Natvraleza y Calida del Chocolate, dividido en quatro puntos. En el primero fe trata, que fea Chocolate; y que calidad tenga el Cacao, y los demas ingredientes. En el fegundo, fe trata la calidad que refulta de todos ellos. En el tercero fe trata el modo de hazerlo, y de quantas maneras fe toma en las Indias, y qual dellas es mas falud-*

FIGURE 7.35 The pepper elder or rough-leaved pepper *Piper amalago*, called *mecaxochitl* in Nahuatl
COURTESY OF CÉSAR DELNATTE, CHARGÉ DE MISSION ENVIRONNEMENT CHEZ L'OFFICE NATIONAL DES FORÊTS, FORT-DE-FRANCE, MARTINIQUE

the shells have been removed. Then first we must grind in a mortar two cinnamon stalks and two chillies, followed by a fistful of anise seeds. Then we grind in one vanilla stalk, a dozen almonds and a dozen hazelnuts. We then add two Mesoamerican ingredients which Colmenero de Ledesma recorded as *Mecafuchil* and *Vinacaxtlidos*.

The flavouring *Mecafuchil* is pepper elder or rough-leaved pepper *Piper amalago*, called *mecaxochitl* in Nahuatl. This plant was described by the botanist Francisco Hernández (1515–1587) as 'Mecaxuchitl', and he noted that this *efpecies de pimiẽta larga beuefe en la beuida del cacao y le da vngufto agradable* 'species of long pepper is drunk in the cacao beverage, to which it imparts an agreeable taste'.[143] An illustration of the plant is con-

able. El vltimo punto trata de la quantitad, y como fe ha de tomar, y en que tiempo, y que perfonas. Madrid: Por Francisco Martinez (ff. 8r–10r).

143 Francisco Hernández. 1615 [posthumous]. *Qvatro Libros de la Natvraleza, y Virtvdes de las plantas, y animales que eftan receuidos en el vfo de Medicina en la Nueua Efpaña, y la Methodo, y correccion, y preparacion, que para adminiftrallas fe requiere con lo que el Doctor Francifco Hernandez efcriuio en lengua Latina, mvy vtil para todo genero de gente q́ viue en eftãcias y Pueblos, do no ay Medicos, ni Botica, Traduzido, y aumentados muchos fimples, y Compueftos y otros muchos fecretos curatiuos, por Fr. Francifco Ximenez hijo del Conuento de S. Domingo de Mexico, Natural de la Villa de Luna del Reyno de Aragon*. En Mexico, en cafa de la Vinda de Diego Lopez Daualos (Libro Segundo, Parte primera, Cap. XIII, ff. 77v). The name of the plant *mecaxuchitl* or *mecaxochitl* should not be confused with the species *mexochitl*, which is separately listed by Hernán-

FIGURE 7.36
Frontal view of the flower of *Cymbopetalum penduliflorum* with its thick ear-shaped petals
PHOTO BY SOPHIA MONZÓN, REPRODUCED FROM HELLMUTH (2013) WITH THE KIND PERMISSION OF NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

FIGURE 7.37
Side view of the flower of *Cymbopetalum penduliflorum*
PHOTO BY NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

tained in the published version of Hernández' original Latin manuscript, edited in Rome by Nardo Antonio Reccho in 1651.[144]

Colmenero de Ledesma explained that *Vinacaxtlidos* were fragrant blossoms called *orejuelas* 'ear flowers' in Spanish. Regarding the *Vinacaxtlidos* mentioned by Colmenero de Ledesma, Hernández recorded the Nahuatl name of the same plant in the spelling *hueinacaztli*, and said that this plant was called *Flor de la oreja* 'ear flower' in

dez (Libro Primero, Parte tercera, Cap. XXXIII, f. 65^{v}), or with the medicinal flower *mācpalxōchitl* of the Mexican hand tree *Chiranthodendron pentadactylon*. If Frances Karttunen has not just misidentified the meaning of the entry *miccāxōchitl* in her dictionary, then an altogether different species would apparently be denoted by this similar sounding name, which is defined by Karttunen as the marigold *Tagetes erecta*, ostensibly meaning 'death-flower' (Frances Karttunen. 1992. *An Analytical Dictionary of Nahuatl*. Norman: University of Oklahoma Press, p. 146).

144 Francisco Hernández. 1651 [posthumous]. *Nova Plantarvm, Animalivm et Mineralivm Mexicanorvm Historia a Francisco Hernandez Medico In Indijs præſtantiſſimo primum compilata, dein a Nardo Antonio Reccho in Volvmen Digesta, a Io. Terentio, Io. Fabro, et Fabio, Colvmna Lynceis Notis, & additionibus longe doctiſſimis illustrata*. Roma: Sumptibus Blaſij Deuerſini, & Zanobij Maſotti Bibliopolarum. Typis Vitalis Maſcardi (Cap. XIII, p. 144).

Spanish.[145] Hernández also recorded the Nahuatl synonym *xochinacaztlli* for the species.[146] This flavouring consisted of the thick ear-shaped petals of *Cymbopetalum penduliflorum*, a tree of the soursop family which grows in the tropical lowland forests of Veracruz, Oaxaca and Chiapas. The edible flowers of this species constitute a traditional item in the Mayan diet.[147]

The next step in the recipe is to add half a Spanish pound, or roughly 230 grammes, of sugar. Sugar would ever after remain a prominent feature in the European preparation of cacao. Finally, we are left to grind in the one hundred well roasted cacao nibs. The last ingredient to add is the achiote, which is used to obtain a vibrant red colour. The drink is then prepared by mixing the resultant mass with water, not with milk. The beverage could be drunk either hot or cold. Colmenero de Ledesma recommended hot water, since the use of cold water in those days sometimes led to gastrointestinal upset. Another way of preparing the beverage, he explained, was by adding liberal amounts of flour made from toasted maize. Colmenero de Ledesma gave the native name for this corn starch thickened version as *Cacao pinoli*.

The chocolate drunk in Europe was still essentially the beverage of the Aztecs and Mayans. Chocolate was prepared from beans that had been roasted, finely ground or milled and then mixed with hot or cold water, but the Spaniards had already begun to introduce new flavourings. As cacao spread throughout western Europe in the mid 17th century, some of the unfamiliar and unobtainable flavourings from the Americas were dropped. The Mesoamericans had a rich tropical repertoire of local ingredients used to flavour their cacao other than just those mentioned by Colmenero de Ledesma. Some of these other flavourings, such as *yolloxochitl*, the flower of the tree *Magnolia mexicana*, are mentioned by Hernández.[148] Europeans naturally introduced new flavourings. For the delectation of Cosimo III de' Medici, the grand duke of Tuscany (*regnabat* 1670–1723), the physician and poet Francesco Redi (1626–1697) created a very appealing chocolate drink, flavoured with cinnamon, vanilla beans, ambergris and jasmine flowers.[149]

The book of Colmenero de Ledesma, along with his recipe, were published in a French translation in 1643 and in English in 1652.[150] Each of these

145 Hernández described the tree as follows: 'es vn arbol de peregrina figura q̃ tiene las ojas largas y angoſtas, de color verde oſcuro, pẽdiẽtes devn pezõcillo marchito, tiene las flores diuididas en ojas por la parte interior purpureas, y por la eſterior verdes, tiene propia figura de orejas, q̃ ſon de muy grato y ſuaue olor. *Nace en tierras caliẽtes, y no ay otra coſa en los tiãgues, y mercados de los indios quemas ordiñariamente ſe halle ni que en mayor eſtima ſe tenga*. La qual ſuele dar ſuma gracia y guſto, juntamẽte con vn ſuauiſsimo olor y ſabor, aq̃lla tan celebrada beuida del cacao q̃ llaman chocolate, y le da cierto temple y naturaleza ſaludable, es caliẽte en el principio del quarto grado, y ſeca en el tercero, dizeſe, q̃ beuida en agua reſuelue las vẽtoſidades, adelgaza la flema, calienta y conforta el eſtomago resfriado ò flaco, y tambiẽ el coraçon, es vtil para la aſma, molida y hecha polbos muy ſutiles, añadiẽdole dos baynillas de los chiles grãdes q̃ llaman texòchilli quitada la ſemilla y toſtadas en vn comal, q̃ aſsimillamã à vnas cazuelas en q̃ tueſtan y hazen ſu pan los naturules q̃ llamamos noſotros tortillas, añadiendole a lo dicho dos òtres gotas de balſamo, y tomandolo en algun licor acomodado' (Hernández 1615, Libro Primero, Cap. IIII, ff. 2r–2v).

146 The synonomous species term *xochinacaztlli* provided by Hernández resembles the entry recorded as *Xuchinecutli* by Alonso de Molina in his Nahuatl dictionary of 1571. However, de Molina defined this term as denoting flower nectar or *miel que ſe cria dentro dela flor* 'the honey which is formed inside of a flower' and provides the alternative synonomous forms *Xuchinenecutli* and *Xuchimemeyallotl* (de Molina 1571, Vol. 2, f. 161v, col. 2). Likewise, the dictionary contains the entry *Ouanecutli*, which appears to represent the same plant that Colmenero de Ledesma recorded as *Vinacaxtli*, but which de Molina defined as *miel de cañas de mayz, que parece arrope* 'the honey of maize stalks, which appears syrupy' or, literally, which resembles *arrope*, the Spanish grape syrup (de Molina 1571, Vol. 1, f. 78r, col. 2).

147 Nicholas Matthew Hellmuth. 2013. 'Edible flowers in the Mayan diet', *Revue, Guatemala's English-language Magazine*, 22 (4): 64, 66.

148 Hernández (1615, Libro Primero, Cap. XX, ff. 8r–8v).

149 Coe and Coe (1996: 143–150).

150 Antonio Colmenero de Ledesma. 1643. *Dv Chocolate: Discovrs cvrievx, divisé en qvatre parties. Par Antoine Colmenero de Ledeſma Medecin & Chirurgien de la ville*

FIGURE 7.38 The flowers of *Cymbopetalum penduliflorum* in various states of ripeness
PHOTO BY SOPHIA MONZÓN, REPRODUCED FROM HELLMUTH (2013) WITH THE KIND PERMISSION OF NICHOLAS MATTHEW HELLMUTH, FOUNDATION FOR LATIN AMERICAN ANTHROPOLOGICAL RESEARCH, GUATEMALA

translations contained enhancements and additions, as well as omissions. Notably, the English edition removed all mention of exotic Mesoamerican flavourings from the recipe. Though the Spaniards began adding sugar to cacao at least as early as 1631, it seems that the English may have been the first to add milk, for the new afterword to the 1652 English translation recommended that cacao be prepared with hot milk instead of with hot water. However, if the drinker wished to render the bever-

de Ecija de l'Andalouzie. Traduit d'Efpagnol en François fur l'impreffion faite à Madrid l'an 1631. & efclaircy de quelques Annotations. Par René Moreav Profeffeur du Roy en Medicine à Paris Plus eft adjoufté vn Dialogue touchant le meme Chocolate. Paris: Chez Sebastien Cramoisy, Imprimeur ordinaire du Roy.

FIGURE 7.39
The poet and physician Francesco Redi (1626–1697) prepared a chocolate drink, flavoured with cinnamon, vanilla beans, ambergris and jasmin flowers for Cosimo III de' Medici, the Grand Duke of Tuscany

age even more suitable to the hearty English taste, two eggs could be thrown in for good measure.[151] Chocolate only became more familiar in Paris from 1660,[152] and, whilst in Vienna and Paris chocolate was the predilection of the aristocracy and the *haute bourgeoisie*, in the United Provinces and in London chocolate was available to any consumer who could afford the new commodity.

Chocolate came to be widely drunk for its recreational and nutritional qualities. Yet chocolate continued to be viewed as a medicinal plant. Antonius Hoffman, a doctoral student of Linnæus, defended a dissertation on chocolate in Uppsala in 1765. After describing how the Mesoamericans and the Spaniards prepared chocolate, Hoffman detailed his own chocolate recipe, which he prescribed as therapeutic and tasty. The ingredients which Hoffman required for a sizeable batch of this new brew are given below in Swedish apothecary weights, with the approximate modern metric weights given between parentheses:

17 pounds (6.12 kg) of roasted cacao beans
10 pounds (3.6 kg) of sugar

151 Antonio Colmenero de Ledesma. 1652. *Chocolate: or, An Indian Drinke: By the wife and Moderate ufe whereof, Health is preferved, Sicknefse Diverted, and Cured, efpecially the Plague of the Guts; vulgarly called The New Difease; Fluxes, Confumptions, & Coughs of the Lungs, with fundry other defperate Difeafes. By it alfo, Conception is Caufed, the: Birth Haftened and facilitated, Beauty Gain'd and continued. Written Originally in Spanifh, by Antonio Colminero of Ledefma, Doctor in Phyficke, and faithfully rendred in the Englifh, By Capt. James Wadsworth*. London: Printed by J.G. for Iohn Dakins (pp. 41–42).

152 Nicolas de la Mare wrote: 'Le chocolat eft une pâte, ou compofition, dont la bafe eft une feve … & la connoiffance n'en eft venuë à Paris, qu'en 1660' (1719, tome III, p. 797, col. 2).

28 vanilla stalks
1 drachm (4 g) of ambergris
6 ounces (180 g) of cinnamon

Like the physician to the grand duke of Tuscany a century earlier, Hoffman used ambergris, an aromatic biliary secretion produced in the digestive tract of sperm whales, as an ingredient in his chocolate. Hoffman explained that it was possible to substitute the ambergris or *Ambr. Cinereæ* with musk, but warned that the fragrance of musk was not as pleasant, nor could musk be borne well by women, in whom it might, he cautioned, provoke attacks of hysteria.[153]

The Dutch West India Company (GWC, *Geoctroyeerde West-Indische Compagnie*) began trading in 1621, and cacao beans were soon shipped from the Caribbean to the Netherlands and to New Amsterdam in the New Netherlands, with fairly robust trade in cacao from the fourth quarter of the 17th century. In 1701, the governor of the province of Venezuela, Nicolás Eugenio de Ponte y Hoyo, wrote to king Philip V of Spain that the paths to all the cacao plantations in the country were well trodden by Dutch traders.[154] Yet it would still take more than two centuries before what we know today as cacao powder would be invented in Holland.

Around 1560, the Spaniards introduced this New World cultigen to Asia when they brought cacao trees to the Minahassa peninsula on the Celebes or *Sulawesi*, whence they spread to the Moluccas. The first *criollo* cultivars also reached Java in the 16th century.[155] Later, in 1670, Pedro Bravo de Lagunas brought a cacao plant from Acapulco to Manila.[156] In 1778, the Dutch transplanted cacao plants from the Philippines to the Dutch East Indies on a grand scale and commenced mass production in Java and Sumatra. By 1858, there were also more than a million cacao trees on the Minahassa peninsula, and cacao was also grown on Ceram and Ambon between and in the shade of banana trees.[157] Cacao beans reached Holland both from Dutch Guiana or Suriname in the West Indies as well as from the Dutch East Indies.

For over two centuries after cacao had first been introduced to Europe, the ground roasted nibs were used almost exclusively to prepare hot chocolate as a beverage. A European innovation was the increasing incorporation of solid chocolate mass into cakes, cookies and confections. Despite the predilection for using milk both in Britain and in the Low Countries, we know that even until the early 19th century, chocolate was often still prepared in Britain by boiling an ounce of the finely milled nibs or cacao mass in water for up to a quarter of an hour. The resulting beverage was then decanted to sift out some of the precipitated dregs and then drunk much like coffee, to which sugar and milk or cream could be added to taste.[158]

The chocolate that was first drunk in Europe was therefore nothing like the modern chocolate that we know today, but more like what Pierre-Toussaint Navier described in 1772 as an *infufion théiforme plus ou moins chargée* ‘a more or less saturated tea-like infusion’. In Paris, Navier even suggested that it was possible to go beyond just adding some milk to taste. It was possible to substitute the water with milk entirely in the preparation of chocolate, but he warned that cacao prepared entirely with milk was damaging to the health of those with a sensitive stomach.[159]

153 Antonius Hoffman. 1765. *D.D. Dissertatio medica inauguralis de potu chocolatæ, quam venia exper. Facult. Med. ad Reg. Acad. Upsal. Præside Viro Nobilissimo atque Generosissimo D. Doct. Carolo von Linné*. Holmiæ [Stockholm]: Literis Direct. Laur. Salvii.

154 Peter G. Rose. 2009. ‘Dutch cacao trade in New Netherland during the 17th and 18th centuries’, pp. 377–380 in Grivetti and Shapiro (op.cit.).

155 J.J. Paerels. 1923. ‘Uit de geschiedenis van de cacaocultuur op Java’, *De Indische Gids*, XLV (VI): 522–525.

156 Francisco Manuel Blanco. 1837. *Flora de Filipinas segun el Sistema sexual de Linneo*. Manila: En la Imprenta de Sto. Tomás por D. Candido Lopez (p. 601).

157 Paerels (1923: 522).

158 Paul Chrystal. 2012. *Cadbury & Fry through Time*. Stroud, Gloucestershire: Amberley Publishing (illustration of original preparation instructions from Anna Fry & Son, p. 6).

159 Pierre-Toussaint Navier. 1772. *Observations sur le cacao et sur le chocolat, Où l’on examine les avantages & les inconvéniens qui peuvent réfulter de l’ufage de ces fub-*

The ground cacao mass contains much fat and is therefore treacly. The oily and watery components tend to separate, but they do so imperfectly. So from the time of the Aztecs and the Mayans the ideal was to get the cacao drink to become as homogeneous as possible. To produce the earliest form of commercial cacao from the cacao beans, the cacao mass would be dried, removing the moisture in order to yield a paste which could be kept for long as long as no sugar had been added. This cacao paste would become crumbly when fully dry.

When the dried cacao mass was again mixed with water, the butyraceous component would again separate from the water-soluble components, and this was perceived to be a problem. The addition of semolina or other starches to the dried cacao paste was not just a matter of adulteration, but also an attempt to render the drink amenable to being stirred into a more homogeneous emulsion once mixed with water. Cacao that was sold on the market often contained not just starch but also sometimes sugar and possibly also flavourings. The then as yet unattained ideal was to make a uniform emulsion of the oily and watery components of the cacao.

Modern Cacao and Chocolate Are Invented

In 1815, Casparus van Houten opened his first chocolate factory on the Leliegracht in Amsterdam. By using a hydraulic press, he succeeded in 1827 in separating the cacao butter from the cacao solids. The cacao solids formed a thick residue in the press that could be reduced to a powder to yield what in those early days was referred to in Dutch variously as *fijne chocolade* 'fine chocolate', *chocolaatpoeder* 'chocolate powder' or *poederchocolade* 'powder chocolate', and which would soon thereafter be referred to in English initially as *concentrated cocoa*. Casparus van Houten applied for and received a patent for this process on the 4th of April 1828. The patent was nearly not granted, however, because the obstinate Dutch home minister wrote a letter to king Willem I in March 1828, objecting that the removal of the cacao butter from the cacao reduced its nutritional value. This process of manufacturing the defatted and highly miscible chocolate powder entailed more than just hydraulic pressure, but also involved a technique that has come to be known today as 'Dutching'.[160]

This other secret of the new process arose by using old knowledge in a new way. It had been known for some time that half of the weight of the cacao nibs could be won in the form of cacao butter extracted from these beans. However, the process of extracting cacao butter by pressing was ineffective and wasteful. Another ingredient was known to facilitate the extraction of the cacao fat, as Navier observed in 1772.

> La tenacité de la ſubstance butireuſe que contient le Cacao, nous a parue trop grande, pour pouvoir l'en dépouiller entierement, par l'expreſſion; ce qui nous a déterminé à employer l'ébullition ... Nous avons obſervé qu'en mettant un peu de ſel alkali, dans les ébullitions, c'étoit un moyen ſûr, pour en extraire plus de parties butireuſes. Ce ſel par la pénétration s'inſinue dans les parties terreuſes, rompt les cellules qui retiennent les parties graſſes & les force de venir ſurnager à la ſuperficie de l'eau.[161]

> The tenacity of the butyraceous substance which the cacao contains strikes us as too great to be able to extract it entirely by pressing it out, which has led us to decide to try to boil off the moisture ... We observed that adding a bit of alkali salt into the successive boilings was a sure means for extracting more of the butyraceous components. This salt penetrates and

ſtances nourricieres. Le tout fondé ſur l'expérience & ſur les recherches analytiques de l'amande du Cacao. Paris: Chez P. Fr. Didot jeune (pp. 113, 125–126).

160 Peter van Dam. 2012. *Opkomst en ondergang van een wereldmerk: Cacao- en chocoladefabriek C.J. van Houten & Zn. 1815–1971*. Eindhoven: Lecturis.

161 Navier (1772: 18–19).

FIGURE 7.40
Coenraad Johannes van Houten, whose father Casparus van Houten invented cacao powder in Amsterdam in 1827 using a hydraulic press and alkali processing or 'Dutching' to isolate the cacao powder and extract the cacao butter, expanded *Cacao- en chocoladefabriek C.J. van Houten & Zn.* to become the world's most prominent cacao manufacturer for over a century

> seeps into the muddy parts, breaks open the cells that retain the fatty parts and so forces the fats to rise to the surface of the water.

Casparus van Houten had rendered the process of pressing the cacao effective by using a hydraulic press, but he had also used this older knowledge, expressed above in the words of Navier, by adding potash to render the extraction of the cacao butter by hydraulic pressing more effective. Alkali processing or Dutching would continue to play a major role in chocolate manufacture.

In 1838, van Houten's patent expired, but in 1850 his thriving company moved to Weesp, where, under the direction of van Houten's son Coenraad Johannes van Houten and his sons, the concern expanded into the world's most prominent cacao manufacturer *Cacao- en chocoladefabriek C.J. van Houten & Zn.* The process of Dutching chocolate had led both to efficiently producing pure cacao butter and to the modern hot chocolate that we drink today, made by mixing cacao powder and milk with honey or sugar. Until 1897, the van Houten company exclusively produced and sold cacao powder and cacao butter.[162] Yet their invention spurred new developments elsewhere. Previously, ground cacao liquor or dried cacao paste had been worked into cookies and cakes, but the cacao mass used in chocolate confections tended to be somewhat clumpy and gritty. Now the cacao powder developed in 1827 in Amsterdam enabled Franz Sacher to invent *Sachertorte* in Vienna as early as 1832.

Yet the fine chocolate that we eat today was developed only later in Switzerland. Swiss chocolate making has Italian roots. Italy has known chocolate ever since 1606, when Antonio Carletti brought cacao back from Spain to the city of Florence. Though chocolate had spread to much of western Europe by the middle of the 17th century, chocolate was a latecomer to Switzerland, where it was not manufactured until the middle of the 18th century. The first Swiss chocolate mill was established by two Lombards around 1750 in the hamlet of Schermenmühle, which was located near the hamlet of Papiermühle inside what today is the municipality of Ittigen in Bern. In 1803, another *cioccolataio* from Lombardy, Ernesto Cima, came to Switzerland and set up a chocolate mill in the Blenio valley in Ticino.

When the grocery store in Vevey which he had been running together with Abram Cusin of Aubonne went bankrupt after eight years, François-Louis Cailler opened his first chocolate

162 van Dam (2012).

FIGURE 7.41
Heinrich Nestle (1814–1890), alias Henri Nestlé, who invented *farine lactée* at Vevey on Lac Léman
COURTESY OF THE NESTLÉ HISTORICAL ARCHIVES, VEVEY

factory at Corsier-sur-Vevey in 1825 by purchasing the Chenaux Ziegler chocolate mill. Here Cailler undertook to manufacture the same mixture of ground cacao beans and sugar that he had seen in Lombardy, such as had already been produced by this particular chocolate mill since 1819.[163] The product made on the shores of Lac Léman at this time was therefore not yet chocolate in the modern sense. A year later in 1826, Philippe Suchard (1797–1884) of Boudry, after having first worked in his brother Frédéric's *Konditorei* in Bern and then travelling to the United States to sell a suitcase full of Swiss watches, opened his first chocolate factory at Serrières in Neuchâtel in 1826. In 1830, the chocolate wholesaler Charles-Amédée Kohler (1790–1874) likewise opened his own chocolate factory in Lausanne.

After van Houten's patent expired in 1838, chocolate producers such as Cailler, Suchard and Kohler adopted the new production techniques that had been developed in Amsterdam and improved upon the Lombard style chocolate that was already eaten as a confection in itself. The Lombard idea of an edible chocolate confection also later spread to England, where Joseph Storrs Fry & Sons began producing a chocolate confection known as Fry's cream stick from 1847 in Keynsham near Bristol, which came in three different flavours.[164] Yet the real improvements towards perfecting a pure fine edible chocolate were spearheaded in Switzerland.

163 ⟨http://cailler.ch/tout-sur-cailler/histoire/19eme-siecle/⟩ accessed December 2015.

164 Coe and Coe (1996: 243), Chrystal (2012: 10).

FIGURE 7.42
Daniel Peter married Fanny-Louise Cailler, donned the pseudonym of Peter Cailler and invented the first milk chocolate, Nestlé Historical Archives, Vevey

Around the time that van Houten's patent expired and Dutching came to be adopted by Swiss *chocolatiers*, the German chemist Heinrich Nestle (1814–1890) migrated from Frankfurt am Main to Switzerland as a young adult and settled on Lac Léman, where he adopted the Gallic name Henri Nestlé. In 1867, Nestlé developed *farine lactée* 'milky flour', a precursor to powdered milk, made from condensed milk on *Zwieback* by evaporation and reduction to a powder. Proper powdered milk was developed in the 1890s.[165] So, Nestlé founded the company at Vevey that was to become today's multinational firm.

At Vevey, the Alsatian Daniel Peter (1836–1919) acquired cacao mills from the Cailler family in 1861, although the contract of sale stipulated that he was not permitted to produce chocolate himself for a period of six years. In 1863, Peter married Fanny-Louise, the daughter of François-Louis Cailler, and in 1867 Daniel Peter began producing chocolate which he marketed under his business pseudonym of Peter Cailler. In 1875, Peter undertook experiments in an attempt to combine milk with cacao butter, two substances that do not readily mix because milk consists mostly of water and cacao butter is primarily fat. He solved the problem by mixing cacao butter with condensed milk, which had been on the European market for nine years already, produced by the Anglo-Swiss Condensed Milk Company in Cham.

165 Lisane Lavanchy, historienne et archiviste scientifique, Nestlé, Vevey, courriel du 19 avril 2018.

FIGURE 7.43
Callier's milk chocolate was first marketed under the name *Gala Peter*, initially produced using Nestlé's *farine lactée*, but later manufactured with powdered milk, Nestlé Historical Archives, Vevey

Initially, Peter dried the resulting mixture and ground it to a powder with the idea that a cube or sachet of such powder could then be dissolved in hot water for consumption. Peter Cailler & Cie brought this product on the market in 1877, advertising this soluble milk chocolate beverage powder as *chocolat au lait suisse en poudre*. Only later did Peter realise that he could just sell the resulting mixture as an edible bar of milk chocolate, which he marketed under the name Gala Peter, containing the Greek γάλα (*gála*) 'milk', a trademark registered in Switzerland in 1895. Subsequently, a good number of other chocolatiers also took to producing milk chocolate so that Cailler posters and packaging reminded consumers that Gala Peter was *le premier chocolat au lait du monde* 'the world's first milk chocolate'.[166]

Chocolate tablets that resemble today's smooth edible chocolate were first invented only four years later in Bern. The Bernese aristocrat Rudolf Lindt (1855–1909) completed an apprenticeship at Charles Kohler's chocolate factory in Lausanne. Then in 1879, under the gallicised name of *Rodolphe Lindt fils*, he opened his own factory in the Mattequartier in Bern, initially with Kohler's help and participation. The embellishment *fils* 'son' in the company name served to distinguish Rudolf Lindt from his father, the Bernese municipal councillor Johann Rudolf Lindt, who likewise generally went by 'Rudolf'. At this time, Lindt also acquired the oldest chocolate milling machinery in Switzerland from Alfred Walthard, who had obtained this from a certain Herr Ballif from Bern, who had purchased the business of the two very first Lombard *chocolatiers* who had set up shop at Schermenmühle around 1750. In Bern, Lindt introduced two improvements which led to the creation of the Swiss style chocolate in tablet form that is commonly consumed today, which melts in your mouth.

The first improvement was an enhanced grinding of the chocolate mass in a process called *conching*, thus named after the mollusc-shaped troughs in the original grinding machine, which were called *Conchen* in German. The improved grinding technique enhanced the aroma because the cacao mass was more finely ground into a homogeneous mass and in the process underwent heating, oxidation, browning and emulsification.

166 My thanks go to Lisane Lavanchy, historian at the Nestlé Historical Archives, for her generous assistance with the details and chronology of the development of milk chocolate by Daniel Peter.

FIGURE 7.44
Rudolf Lindt (1855–1909)
PHOTOGRAPHED IN 1880 WHEN LINDT WAS 25 YEARS OF AGE

According to Bernese local lore, one morning in December 1879, Lindt discovered that the cacao mass had attained this ideal aromatic composition and texture after he had accidentally left his *Conchiermaschine* running either all night or, by some accounts, all weekend. Lindt discovered that the unanticipated effect of the prolongation of this mechanical process had yielded a fundamentally improved product of great homogeneity. His second enhancement was to add back some of the cacao butter into the ground Dutched cacao solids, thereby improving the texture and consistency and creating *Schmelzschokolade* or *chocolat fondant*, which could be poured into tablet form and would melt in the mouth when eaten.

However, it was a younger brother of Rudolf Lindt, the chemist August who worked in their father's apothecary shop in Bern, who ascertained that the white 'mould' which often appeared to grow on the surface of his brother's chocolate was not a mildew, but instead the result of the inversion of the sugars. This process of hydrolysis led to white patches composed of minute whitish crystals forming on the surface. Ultimately, these blemishes were the result of roasting cacao beans at an improper temperature so that the resulting cacao mass retained too much moisture. This insight led to yet a further refinement in the production procedure. On the 16th of March 1899, the entire process was acquired by the confectioner Johan Rudolf Sprüngli for *Chocolat Sprüngli AG* in Zürich through the purchase of Lindt's company for the grand sum of 1½ million francs. Rudolf Lindt never married but continued to indulge in the pursuit of his favourite pastimes, such as the fine arts and hunting.[167]

167 Hans Rudolf Schmid. 1970. *Schweizer Pioniere der Wirtschaft und Technik*. Zürich: Verein für wirtschaftshistorische Studien.

FIGURE 7.45 Fine modern chocolate that melts in your mouth was first produced in Rudolf's original *fabrique de chocolat* in the Mattequartier in Bern, using his *Conchiermaschine* and other refinements. The factory was later used for a number of years by August and Walter Lindt.

Rudolf, his brother August and his cousin Walter all occupied positions in the new company, named *die Vereinigte Berner und Zürcher Chocoladefabriken Lindt & Sprüngli*. In the early years, things did not go smoothly, however, and the three Lindt cousins sold their shares in 1905. At the age of fifty, Rudolf Lindt withdrew from the chocolate business altogether, whilst his brother August and cousin Walter started their own Lindt chocolate factory in Rudolf's original factory building in the Mattequartier in Bern. As a consequence, beginning from 1906, twenty-one years of acrimonious litigation ensued between Lindt and Sprüngli in Zürich and A. & W. Lindt in Bern. Although Rudolf Lindt had sworn under oath that he himself had no share in the chocolate enterprise of A. & W. Lindt, he died in February 1909 just days after an interim verdict in the court case convicted him of violating the competition clause in the 1899 contract of sale.

Finally in 1927, the case was finally decided in favour of Lindt and Sprüngli, who were deemed to have bought the Lindt name outright back in 1899. The two Lindt cousins August and Walter were made to indemnify Lindt & Sprüngli the sum of 800,000 francs, to surrender their chocolate making equipment and even to withdraw from chocolate manufacture altogether. Rudolf Lindt's brother August died in December 1929, just days after this final verdict was pronounced. The history of this chocolate is marred by the acrimony of the

aggrieved Sprüngli family in Zürich that dragged on for more than two decades of bitter litigation, but the delightful bitterness of Lindt chocolate can be savoured today in the knowledge that this fine product, by sleight of poetic justice, still bears the name of Rudolf Lindt and continues to uphold the highest of standards.

The argument in the defence of the victorious party in the case was not just about the exclusivity of ownership of the conching process but also about the ownership of the name and its fame. This litigation, which ironically appears to have driven two of the most innovative bearers of the family name prematurely to their graves, may be considered against the background of contemporaneous developments, for others were already soon copying the finely honed Bernese process. In Haarlem in 1890, the *chocolatier* Gerardus Johannes Droste launched the Droste brand when he opened his chocolate factory on the Spaarne.[168] For over a century, Droste ostensibly operated without the insight originally contributed by August Lindt that had led to a refinement in the production process that prevented white patches from forming on the surface of the chocolate, for each box of Droste chocolates came with a tiny square piece of thin paper, explaining that the white spots that might form on the surface of the chocolate over time were in no way deleterious nor in any way diminished the quality of the chocolate. In fact, the white spots mentioned were never observed to appear, and my maternal grandmother explained to me decades ago that this disclaimer merely served as a ploy to forestall possible litigation.

In their headquarters in Weesp, van Houten, the original producer of cacao powder and cacao butter, began to manufacture chocolate tablets from 1897. Two years later, in 1899, the same year in which the Lindt name was sold to Sprüngli in Zürich, the confectioner Jean Tobler, whom Rudolf Lindt had hitherto supplied with chocolate, established his own chocolate factory in the Länggasse in Bern. A description of Lindt's process subsequently appeared in print in the specialist literature in 1901 and was promptly adopted by other manufacturers, including Tobler. Jean Tobler's son Theodor Tobler later in 1908 innovated the triangular chocolate called Toblerone, initially produced on the Länggassstrasse in Bern.[169]

So, although chocolate has been drunk in Spain since the second half of the 16th century, and in Florence and subsequently the rest of Europe from 1606 onward, the original drink was initially still essentially just a modified form of the beverage drunk by the Mayans and Aztecs. The chocolate beverage had to some extent already been adapted to Western tastes, but modern hot chocolate on the basis of miscible cacao powder mixed with warm milk was first developed in Amsterdam in 1828. The first crude milk chocolate confection was invented on the shores of Lac Léman at Vevey in 1875, and superior Swiss chocolate or *chocolat fondant* that melts in your mouth was developed in Bern in 1879 by Rudolf Lindt with the help of his brother August Lindt. Fine chocolate produced by the best *chocolatiers* contains high percentages of cacao solids, whereas junk chocolate contains cheap solid vegetable fats or milk fats and lots of sugar. However, white chocolate is made of cacao butter and contains no cacao solids. Now back to the history of tea.

168 Annemarie Ebeling en Wies Hering. 1997. *Droste: De geschiedenis van de Haarlemse cacao- en chocoladefabriek aan het Spaarne*. Haarlem: De Vrieseborch.

169 René Frei. 1951. *Über die Schokolade im allgemeinen und die Entwicklung der bernischen Schokoladeindustrie: Dissertation zur Erlangung der Würde eines Doktors rerum politicarum an der hohen juristischen Fakultät der Universität Bern*. Luzern: Buchdruckerei H. Studer; Hans Rudolf Schmid. 1985, 'Lindt, Rudolf, Schokoladefabrikant', pp. 616–617 in Volume 14 *Laverrenz—Locher-Freuler* in Otto zu Stolberg-Wernigerode, ed., *Neue Deutsche Biographie*. Berlin: Duncker & Humblot; Alex Capus. 2006. *Patriarchen: Zehn Portraits*. München: Albrecht Knaus Verlag, esp. 'Rudolf Lindt', pp. 17–31; Roman Rossfeld. 2007. *Schweizer Schokolade: Industrielle Produktion und kulturelle Konstruktion eines nationalen Symbols 1860–1920*. Baden: Hier + Jetzt Verlag für Kultur und Geschichte.

CHAPTER 8

Taxes vs. Freedom from Oppression

The Rise of Canton and the Downturn in the Dutch Tea Trade

The original English East India Company (EIC) had been set up by royal charter under queen Elizabeth on the last day of the year 1600 under the name *Governor and Company of Merchants of London trading with the East Indies*. The competitor, the Dutch East India Company, sent out well over twice as many outward bound ships to Asia than the English East India Company in the course of the 17th century, and at this time English seafaring vessels could not yet compare with Dutch vessels in terms of manoeuvrability, cargo and girth.[1] The English company sustained great losses on account of being outcompeted by the Dutch in India. By the time of the English civil war (*gerebatur* 1642–1651), the English company was already in decline, and the English only began to import a comparable value of Asian goods from the 1670s.

With the Dutch *stadthouder* on the English throne, the Nine Years' War (*gerebatur* 1688–1697) saw England and the United Provinces in an alliance against France, but this left the English East India Company in so desperate a condition that a new one was erected. On the 5th of September 1698, the English parliament instituted a second English East India Company by the name of the *English Company Trading to the East Indies*, founded as a competitor to the first English East India Company. The same privileges were granted as had been accorded by the charter of the old company under Charles II.

Gluts in the market led to competitive prices, and the old company continued to do business and traded in the Indies until Michaelmas 1701. The government intervened, and in April 1702, a third company was formed under queen Anne and, in emulation of the official name of the Dutch East India Company, was christened the *United Company of Merchants of England Trading to the East Indies*. By 1708, the old and new English East India Companies had been reorganised and merged into this yet newer third company, and for the historical period after the Acts of Union of 1706 and 1707 it is proper to speak of this newer entity as the British, rather than as the English, East India Company.

In 1692, the Kāngxī 康熙 emperor had issued an edict tolerating Christianity and allowing Europeans to trade with China. This *volte-face* is usually credited to the influence of the Flemish Jesuit Ferdinand Verbiest (1623–1688) at the imperial court in Peking. One aim of the Chinese government was evidently to seek to concentrate the foreign tea trade at Canton by designating this city as the sole port dealing with European traders. The French arrived at Whampoa (Cantonese *wong⁴bou³* 黃埔 [wɔːŋ ˩ pou ˧]) in the harbour of Canton in 1698. In 1699, the English sent their first ship, the *Macclesfield*, via Macau to Whampoa, and the British established their trading post at Canton in 1711. The imperial customs supervisor at Canton was known to Westerners as the *hoppo* (Cantonese *wu⁶bou⁶* 戶部 [wuː ˨ pou ˨] 'ministry of revenue'), who headed and oversaw the *jyut⁶hoi²gwaan¹* 粵海關 [jyːt ˨ hɔːi ˧˥ kʷaːn ˥] 'Canton customs'. The post of hoppo was lucrative because a hoppo was responsible directly to the emperor for all the foreign trade in China and could enrich himself vastly within a tenure of just a few years. British and Dutch agents at Canton were also known at times to cook the books and enrich themselves by overcharging the companies which they represented and taking a large cut.[2]

1 Violet Barbour. 1930. 'Dutch and English merchant shipping in the seventeenth century', *Economic History Review*, 2: 261–290.

2 Johannes de Hullu. 1917. 'Over den Chinaschen handel der

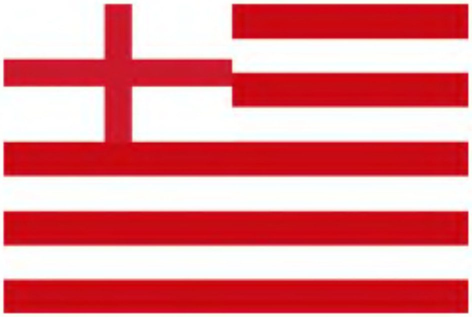

FIGURE 8.1
The English East India Company flag until 1707, with the Cross of St. George in the canton on a field with the English livery colours

FIGURE 8.2
The British East India Company flag from 1707, with the older Union Jack in the canton on a field with the English livery colours.

In the first part of his description of Great Britain, written in 1719, Daniel Defoe listed tea amongst the goods routinely arriving from Holland, and depicted the drinking of tea as a casual part of the daily routine in England.[3] In 1756, Jonas Hanway recounted in plaintive tones the history of the weak position of England in the tea trade.

One would imagine, that a pound of fine bohea tea, which coſt the *Dutch*, at *Batavia*, four or five ſhillings, would ſoon find its way into *Europe* by other channels, if it could be ſold for three pounds; and this was the price ſo late as about the year 1707; and we were not then ſo univerſally *luxurious*, nor ſo vigilant as we are now; at leaſt this was not the pleaſure in *general* vogue at that time; and if it had always remained ſacred to *Ladies* of quality, it had been *happier* for us. The uſe of tea deſcended to the *plebeian* order amongſt us, but about the beginning of this century: but it was not before the year 1715, that we began to buy large quantities of *green tea* of the *Chineſe*, having been till then contented with *bohea*. In 1720, the conſumption was ſo much augmented, that the *French*, who had hitherto brought home only raw-ſilk, porcelain, and ſilken manufactures from *China*, began to import conſiderable quantities of tea into *France*; and by eſtabliſhing the trade of running it into this iſland, have found their *profit* in *our folly* ever since. From 1717 to 1720, we imported annually about 700,000 pounds. The quantities run in

Oost-Indische Compagnie in de eerste dertig jaar van de 18e eeuw', *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië*, 73 (1): 32–151.

3 Daniel Defoe. 1724. *A Tour Thro' the whole Island of Great Britain, Divided into Circuits or Journies. Giving a Particular and Diverting Account of Whatever is Curious and worth Observation, viz. I. A Description of the Principal Cities and Towns, their Situation, Magnitude, Government, and Commerce. II. The Cuſtoms, Canners, Speech, as alſo the Exercíſes, Diverſions, and Employment of the People. III. The Produce and Improvement of the Lands, the Trade, and Manufactures. IV. The Sea Ports and Fortifications, the Courſe of Rivers, and the Inland Navigation. V. The Publick Edifices, Seats, and Palaces of the Nobility and Gentry. With Uſeful Observations upon the Whole. Particularly fitted for the Reading of ſuch as deſire to Travel over the Island. By a Gentleman* (three volumes). London: G. Strahan (Vol. I, Letter II, p. 32, 114; Letter III, p. 64).

FIGURE 8.3
In 1692, the Kāngxī 康熙 emperor permitted Christianity and allowed European trade with China, as depicted during his reign in a hanging painting, colour on silk, Palace Museum in the Forbidden City

> upon us, however, muft have been prodigious, for it was calculated in 1728, that 5,000,000 pounds were imported into *Europe*, of which we were much the greateft confumers. Our own importation increafed, infomuch that from 1732 to 1742, I find 1,200,000 pounds annually imported into *London*; and now the quantity of 3,000,000.[4]

In the first part of the 18th century, a returning Dutch East India Company ship at Batavia would be referred to as a *theeschip* 'tea ship'. These ships would ideally sail out of port at Batavia in the month of March.[5] Until 1718, the Dutch had enjoyed the favoured position in the tea trade by virtue of the Chinese tea dealers, who would sail their tea to Batavia on their junks. When the tea supplies reaching Batavia on Chinese junks failed to meet demand, the Portuguese would ship tea to Batavia from Macau.[6] However, from the 1720s the tea imports of the new British East India Company

4 Hanway (1756: 215–216).

5 de Hullu (1917: 38, 44).

6 de Hullu (1917).

FIGURE 8.4
Belgian stamp issued on the 23rd of June 1973, commemorating the establishment of the Ostend Company in 1722

began to rival those of the Dutch East India Company and gradually began to overtake them.[7] The dramatic change in the fortunes of the Dutch and British East India Companies in the 1720s were a direct outcome of the way that the Dutch and the British handled the tea trade with China and is also due to the début of new competitors.

In the Austrian Netherlands, the former Amsterdam banker Paul Jacques Cloots let himself be naturalised and then sent the first ship *Prince Eugène* or *Printz Eugenius* from Ostend, or *Oostende*, to Canton in January 1718.[8] The ship returned 1½ years later in July 1719, and its cargo of 170,000 pounds of tea harvested one million guilders at auction.[9] The success of the trade from Ostend prompted the establishment on the 19th of December 1722 of the Ostend Company by the Holy Roman emperor Charles VI in Vienna.[10]

The company, which was administratively headquartered at Antwerp, was incorporated in 1723 under the name *Generale Keizerlijke en Koninklijke Indische Compagnie* or *Compagnie Générale Impériale et Royale des Indes*. The Ostend Company existed chiefly by virtue of the tea that it smuggled into Great Britain. Many of the ship owners and investors were London merchants who resented both the monopoly of the British East India Company and the unfair taxation of tea.[11] Some captains and many of the crew members were from the British Isles, such as Alexander Hume and John Harrisson who went to Bengal in 1721 to establish Ostend factories there.

The Ostend Company was not just a thorn in the side of British trade protectionists. In 1717, the States General in The Hague renewed the ban on Dutchmen serving on foreign ships. After the zealous trading of the Ostend Company had helped to cause a glut in the European tea market and a con-

7 Niels Steensgaard. 1990. 'The growth and composition of the long-distance trade of England and the Dutch republic before 1750', pp. 102–152 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

8 Hennebert (1999: 51); Michal Wanner. 2007. 'The establishment of the general company in Ostend in the context of the Habsburg maritime plans 1714–1723', *Prague Papers on the History of International Relations*, 2007: 33–62.

9 de Hullu (1917: 49).

10 Diane Hennebert. 1999. 'La brève histoire de la Compagnie d'Ostende', pp. 49–53 in Barrie and Smyers (op.cit.).

11 Eduard J. Baels. 1972. *De Generale Keizerlijke en Koninklijke Indische Compagnie gevestigd in de Oostenrijkse Nederlanden, genaamd "de Oostendse Compagnie"*. Oostende: Uitgeverij Erel.

comitant fall in prices in 1721, the States General in the United Provinces decided in 1723 that either public scourging or the death penalty as well as the confiscation of goods would be meted out to any Dutchmen serving in the Ostend Company.[12]

After a highly lucrative decade of undercutting tea prices, the *Apollo* in 1730 became the last Ostend Company ship to sail to Canton. The company ceased operations on the 16th of March 1731 by decree of the emperor Charles VI, who feared at this time that the United Provinces and Britain might unleash war against the Holy Roman Empire and wished to ensure the succession to the throne of his daughter Maria Theresia Walburga Amalia Christina. On the 6th of March 1732, the *Concorde* sailed from Ostend to collect the employees now marooned at company outposts in Asia, and the company itself went into liquidation. From 1728, the volume of tea traded by the British East India Company bounced back to even higher levels than before, and those of the Dutch East India Company also spectacularly recovered from 1730.[13]

Abraham van Riebeeck, the son of Jan van Riebeeck, founder of the Cape Colony, was the governor general of the Dutch East Indies at Batavia from 1708 to 1713. Already at this early date, he had implemented measures to discourage too much tea being brought into Batavia on Chinese junks because he feared a glut in the market. Yet the practice of flexible and quick responses to the market which had hitherto rendered the Dutch company so dynamic was suddenly replaced by a heady cocktail of incompetence and stubbornness which found its incarnation in the person of Christoffel van Swoll, the governor general of the Dutch East Indies at Batavia from 1713 until 1718.

Orders came from Amsterdam to charge the Chinese merchants higher prices for pepper in order to prevent its resale by those same Chinese merchants to the European competitors of the Dutch East India Company. Somehow this prompted governor general van Swoll, and the *Raad van Indië* over which he presided, also to lower the price paid for tea to Chinese suppliers by one third. From the 2nd of March 1717, the Chinese were in effect compelled to sell tea in Java at below the market price. The rationale behind this myopic measure was ostensibly to prevent Chinese junks from muscling in themselves on the Dutch maritime tea trade in Chinese tea. The Chinese tea dealers balked at this arbitrary administrative effrontery and ceased to deliver tea to Batavia for five years.[14]

In compliance with orders issued by the Lords Seventeen in Amsterdam, the next governor general, Hendrick Zwaardecroon (*obtinebat* 1718–1725), somehow managed to dispatch the frigate *Wynendaal* to Holland from Batavia in March 1719 with tea supplied by Portuguese ships from Macau,[15] but he only finally managed to lure the first Chinese junks back to Batavia in 1721, in which year two junks sailed into Batavia with tea from Shanghai and three more from Tonkin. In 1722, junks from Amoy 廈門 and Ningpo 寧波 also began to deliver tea to Batavia again.[16] Meanwhile, during this period lasting from 1717 to 1722, the British at Canton were paying from ½ to ⅓ the price per unit weight of tea as the Dutch were paying for tea that was being shipped in to Batavia.[17] Yet it would take the Dutch six more years before they entered the Canton trade themselves under governor general Mattheus de Haan (*obtinebat* 1725–1729).

In 1732, the governor general Dirk van Cloon was at pains to implement measures to prevent *den ongepermitterden afscheep van thee* 'the prohibited export of tea' by unauthorised tea traders.[18] From the early days of the tea trade, it was known

12 de Hullu (1917: 50–52).

13 Kristof Glamann. 1981. *Dutch-Asiatic Trade 1620–1740*. The Hague: Martinus Nijhoff (p. 225).

14 Kirti Narayan Chaudhuri. 1978. *The Trading World of Asia and the English East India Company, 1660–1760*. Cambridge: Cambridge University Press; Glamann (1981: 216–217).

15 de Jonge (1877, *Zesde Deel*, blz. 44).

16 de Jonge (1877, *Zesde Deel*, blz. xvi–xvii, 74–79).

17 Glamann (1981: 218).

18 de Jonge (1877, *Zesde Deel*, blz. 192).

that long exposure to the air was not good for tea. Accordingly, the better tea was kept in air-tight flasks sealed with lead. The *theelood* 'tea lead' was actually an alloy of lead, tin and copper, or in some cases just an alloy of tin and zinc. In 1728, the governor general Mattheus de Haan undertook to persuade traders to pack their tea in chests lined with *theelood* 'tea lead' on the inside, in emulation of the novel technique for employing sheets of this alloy that had been innovated by the merchants of Ostend Company.[19]

From 1735, two company ships would sail back and forth between Batavia and China to provide a continuous supply of tea that was then shipped onward to Europe. Additionally, tea arrived in Batavia from the highly restricted private tea trade. Partly as a result of government policies, sugar prices had declined dramatically. On the 7th of October 1740, Chinese sugar mill workers revolted, killing fifty Dutch soldiers. This incident unleashed a pogrom against the ethnic Chinese in Batavia, during which thousands of resident ethnic Chinese in the capital were murdered and their houses torched. The massacre lasted from the 9th to the 22nd of October 1740, and incidental murders of ethnic Chinese persons continued in the Javanese countryside well into November.[20] The murder and mayhem had initially been orchestrated by the governor general Adriaan Valckenier (*obtinebat* 1737–1741), who was recalled to Holland in 1741. The following year, Valckenier was sent back to Batavia, where he died in prison in 1751 after a decade of incarceration.

The ghastly vindictiveness of the massacre orchestrated by Valckenier led to two years of armed insurgency, during which many Javanese sided with the ethnic Chinese against Dutch rule. In the wake of these horrific happenings, the Dutch trade in Chinese tea had, not altogether surprisingly, suddenly grown markedly less brisk. At the same time, the tea trade of the English, who had muscled into the Chinese tea market at this juncture, had picked up noticeably. The new governor general Gustaaf Willem van Imhoff (*obtinebat* 1743–1750) took measures to revive the Dutch tea trade. In his *Consideratiën* of 1741, he stressed:

> In den Chineeschen handel op Europa is de thee wel het voornaamste articul, want sonder deselve kan men onmogelijk van hier op China varen dan met halff geladene scheepen, also niemand in zijne gedagten neemen sal, een schip met andere Chineesche retouren sonder thee vol te steeken, en wie sal met half geladene schepen van daar terug willen keeren? wie sal de kosten van zijne navigatie derwaards en van zijne commercie aan dien oord kunnen goedmaken sonder de thee: de thee is dan het principale articul van den Chineeschen handel.[21]
>
> In the trade of Chinese good to Europe, tea is the main article of trade, for without tea it would be impossible to sail from here to China other than with half loaded ships. The idea would not occur to anybody to fill up a ship just with other Chinese return goods other than tea, and who would return with only a half loaded ship from there? Who would be able to recover the costs of his voyage thither and of his commerce there without tea: tea then is the principal article of the China trade.

19 de Jonge (1877, *Zesde Deel*, blz. 138).

20 Adriaan Valckenier. '22 October 1740. Acte van Amnestie voor de Chinezen, 25 October 1740. Bekendmaking, dat alwie slaven van » verlopene of gemassacreerde « Chinezen onder zich had, deze aan den Raad van justitie te Batavia moest aangeven, 11 November 1740. Verbod voor Chinezen binnen de ommuurde stad Batavia te wonen en daarin 's avonds na zes uur te vertoeven.—Verbod tegen het verkoopen van huizen en erven binnen de stad Batavia gelegen, aan Chinezen, Heidenen en Mohamedanen', pp. 510–514 in Jacobus Anne van der Chijs. 1888. *Nederlands-Indisch Plakaatboek 1602–1811* (*Vierde Deel 1709–1743*). Batavia: Landsdrukkerij, uitgegeven door het Bataviaasch Genootschap van Kunsten en Wetenschappen met medewerking van de Nederlandsch-Indische Regering.

21 J.E. Heeres, ed. 1912. „De consideratiën van van Imhoff", *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië*, 66 (4): 441–621.

FIGURE 8.5 The entrance to the courtyard of the headquarters of the Dutch East Company on the Oude Hoogstraat 24 in Amsterdam, depicted by Reinier Vinkeles in 1768, at a time that Dutch tea was being voraciously consumed by British colonists in North America. Despite the scourges of embezzlement and private trading in the East Indies, the company continued to prosper until the Fourth Anglo-Dutch War (*gerebatur* 1780–1784), collection of the Stadsarchief Gemeente Amsterdam

Under van Imhoff's government, the private trade in tea in the Dutch East Indies was liberalised,[22] quality selection was made more stringent, so that any tea that did not make the grade was rejected outright, and the company ships were allowed to sail directly from China to Europe, bypassing the delay at Batavia.[23]

Mores changed after the death of van Imhoff in November 1750. Arnoud Luymes documented the practices of theft and embezzlement from 1750 to 1764 within the Dutch East India Company. Two out of three shiploads of tea sailed directly from

22 Gustaaf Willem van Imhoff. '14–18 Junij 1743. Openstelling van den thee-handel op Nederland', pp. 8–12 in Jacobus Anne van der Chijs. 1888. *Nederlands-Indisch Plakaatboek 1602–1811 (Vijfde Deel 1743–1750)*. Batavia: Landsdrukkerij, uitgegeven door het Bataviaasch Genootschap van Kunsten en Wetenschappen met medewerking van de Nederlandsch-Indische Regering.

23 Jonkheer mr. Johan Karel Jakob de Jonge, red. 1878. *De Opkomst van het Nederlandsch gezag over Java: Verzameling van onuitgegeven stukken uit het Oud-Koloniaal Archief. Zevende Deel*. 's Gravenhage: Martinus Nijhoff (blz. xxiv–xxv).

FIGURE 8.6 View of the Canton factories by William Daniell in 1805, oil on canvas, 94×182 cm, National Maritime Museum, Greenwich

China to Europe, but one in every three shiploads came to Batavia, where the tea was diverted by subterfuge for the benefit of private trading. The inferior tea was brought annually to Batavia on ten to twelve Chinese junks, two to three Portuguese ships and one to two ships from Manila, all fully laden with tea. This inferior tea would be sorted and repacked and end up as company tea headed for Europe, whereas the finer company tea was diverted to the private trade, of which the directors and managers of the company and their close associates were either the direct or indirect beneficiaries.[24] Despite this bane gnawing away from within the company, several decades of doing robustly brisk business in tea and other commodities lay ahead for the company before this long-lived enterprise would head inexorably for its ultimate demise in 1799.

English Ascendancy in the Tea Trade

Meanwhile, the British East India Company began to ship tea on a regular basis directly from Canton in 1717. In the early decades of the 18th century, an average of just six ships a year put into port at Canton, but in the years between 1786 and 1789 the number of vessels putting into port at Canton for tea reached sixty a year.[25] The British maintained the largest single presence in Canton from the start, but the British did not outpace the Dutch in the tea trade all at once. The change of fortunes was well reflected in the sharp fall in the equity valuation of the Dutch East India Company shares on the Amsterdam stock market in the 1730s and 1740s and the concomitant rise in the valuation of the British East India Company.[26]

24 de Jonge (1878: lxxxi–lxxxiii).

25 Forrest (1973).

26 Larry Neal. 1990. 'The Dutch and English East India companies compared: Evidence from the stock and foreign exchange markets', pp. 195–223 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

FIGURE 8.7
Warehouse and headquarters of the Danish East India Company or *det Kongelige Octroyerede Danske Asiatiske Kompagni* on the Strandgade in Copenhagen, 42 × 35 cm, oil on canvas, painted by Peter Tom-Petersen in 1888

The Dutch did not set up a trading post at Canton until 1728, after the French and the British, and the trade was at once highly lucrative. Between 1728 and 1733, annual tea shipments from Canton yielded the Dutch East India Company net profits that fluctuated between roughly a quarter of a million guilders to well over half a million guilders.[27] The Dutch were slightly better at driving a bargain because the cost price which they paid for Bohea tea at Canton was usually less than what the British were paying for the same tea.[28] A letter dated the 5th of September 1730, believed to have been written by Simon van Slingelandt, attests that at Canton the Dutch East India Company had the benefit of their own Chinese agents from Batavia who had a perfect mastery of Dutch.[29] However, whereas tea drinkers at Batavia had hitherto had

27 de Hullu (1917: 115–116).

28 Glamann (1958: 235).

29 'dat er … menschen tot Canton zijn die Duitsch verstaan … drie Chineezen, die lange jaren tot Batavia hebben gewoond, aldaar zijn en die de Hollandsche taal in perfectie spreken' (de Hullu 1917: 102).

FIGURE 8.8
The insignia of the Swedish East India Company or *Svenska Ostindiska Companiet*, courtesy of Yeshy Tempa Sotrug ཡེ་ཤེས་བསྟན་པ་སོག་སྤྲུག། of Jurasüdfuss

the first choice of tea in the heyday of the Dutch tea trade, after the centre of the tea trade had shifted to Canton, Dutch merchants sent only the worst tea to Batavia, whilst the best teas went directly to Europe.[30]

The Swedes and Danes soon followed in 1731 and 1732. The Danish East India Company or *Ostindisk Kompagni* was founded in 1616 under king Christian IV of Denmark-Norway and existed in three consecutive incarnations. The first Danish company went defunct in 1650, and the second *avatār* was founded in 1670 and went defunct in 1729. The trade of both the first and the second company was focused on India and used the Danish port of Tranquebar on the Coromandel coast as a base. The third incarnation was the *Asiatisk Kompagni* or, properly speaking, *det Kongelige Octroyerede Danske Asiatiske Kompagni*, which was established in 1730 and began activities in Canton in 1732.

The Swedish East India Company or *Svenska Ostindiska Companiet* was founded at Gothenburg in 1731 and immediately took up trading in Canton. Most of the trade of both companies was in tea, and 90% of their tea was smuggled into England after being taken ashore at spots along the Scottish coastline. In fact, smuggling tea to Britain was the principal *raison d'être* of both companies. Meanwhile, in England, import duties on tea were raised in 1724, in 1747 and again in 1759. English tea dealers who acquired their stocks from the British East India Company were at a clear disadvantage, and in 1744 an anonymous writer complained about 'the grievous Oppreffion brought on the Dealers in that Commodity by the Smuggling Trade, as it is now openly carried on in Defiance of the Laws'.[31]

Henry Noel Shore took another perspective when he described smuggling as 'a branch of industry which, if it contributed but little to the exchequer, added largely, in the opinion of many people, to "the greatest happiness of the greatest number" in days gone by'.[32] Shore described the situation in 1743:

> In 1736 a petition was presented to Parliament by tea dealers, representing the serious losses they sustained by smuggling. They asserted that nearly half the tea consumed in England paid no duty … Some years ago the treasurer of our East India Company received a letter from Holland intimating that one person in the province of Zealand smuggled yearly for England no less than half a million pounds. Though this seemed incredible, the directors, upon inquiry, were convinced of the fact that such a person there was who, some few years before had been but an English sailor, was now married to a woman that kept a china shop, and had so well managed affairs that he had four sloops of his own constantly employed in smuggling; that the quantity of tea which he was supposed to export had not at all been magnified, and that he had more guineas and English specie in his house than any banker in England.[33]

30 Paul Arthur van Dyke. 2011. *Merchants of Canton and Macao: Politics and Strategies in Eighteenth-Century Trade*. Hong Kong: Hong Kong University Press (p. 95).

31 Anonymous [attributed to John Mackmath or James Ralph] (1744: 1).

32 Shore (1892: v).

33 Shore (1892: 14–15).

FIGURE 8.9 The view of this 1796 aquarelle by Justus Fredrik Weinberg looks eastward into the port of Gothenburg, with the first bridge crossing the harbour at *Lilla torget*. The quayside road past the bridge on the left is *Norra Hamngatan*. The first large building along the left quay is the *Ostindiska huset*, the headquarters of the Swedish East India Company, with the tower of the *Tyska kyrkan* looming overhead behind. Today this large building houses the *Göteborgs Stadsmuseum*. The digital image of this historical depiction, 40×62 cm, water colour and Indian ink on paper, is reproduced here with kind permission of *Bukowskis Auktioner*, Stockholm.

By 1770, the English consumed 6 million pounds of tea leaves annually, whilst both the Dutch and the Danish imported 4½ million pounds each, the lion's share of which was destined for smuggling to England.

France was also a transit country for tea on its way to England at this time.

> … the French imported five or six millions of pounds of tea, the greatest part of which was to be smuggled here; that the trade of Dunkirk (where, and at Flushing, the Sussex and other smugglers had regular resident agents) was mostly carried on by smugglers, in vessels not only large, but so well constructed for sailing that seldom one of them was captured; that in many places near the sea the farmer was unable to find hands to do his work, whilst great numbers were employed in smuggling goods from one part of the country to another. Even the war with France in 1793 caused no appreciable diminution in the import trade, which was carried on all through the war, even from the French ports …[34]

Whilst the Continental tea traders could benefit from the great length of Britain's unguarded coastline, the legal British tea trade monopoly had to deal with the tea dealers in Canton.

During this period, the Chinese merchants at Canton formed a body called the Co-hong (Can-

34 Shore (1892: 72).

tonese *gung¹hang⁴* 公行 [kʊŋ ˥ hɐŋ ˩] 'fair trade, public firm') through which all foreign business was transacted. Port fees were charged, and the presence of foreigners was tightly controlled. The set-up was initially regulated by the mandarins in such a way as to encourage trade.[35] However, the hoppo was obliged to abolish the Co-hong in 1771, when the traders of all nations united against them because cumulatively millions had been lost by periodic Co-hong bankruptcies. After this date, European tea merchants dealt with individual Chinese tea dealers.

However, bankruptcies of Chinese tea dealers who happened to owe money to foreign merchants continued with vexing frequency. In 1779, an official letter of protest was delivered by captain John Panton on a British man-o'-war that had been dispatched from India. Remedial measures were taken, and in 1783 the Co-hong was revived in a new form, with only twelve or thirteen official tea dealers. In 1795, some of the Cantonese merchants attempted to resurrect the Co-hong in its old form, but they did not succeed in replacing the new more flexible Co-hong arrangement of individual tea merchants.[36]

Silver for Tea

Writing in the 1650s, the Dutch minister Philippus Baldæus had warned that the intemperate consumption of tea could cause the jitters.

> … maar onmatigh gebruykt zijnde, verdrooght zy te zeer, ende maakt vroeg oude Mannen en Vrouwen. De *Tee* noch verſch zijnde en eerſt geopent, heeft zulken kracht (gelijk ik zelfs in *India* bevonden hebbe) dat na het drinken van 4 a 5 kopjes, alle de Ledematen beven, ende het Hooft licht werd.[37]

> … but used with intemperance, tea dehydrates and prematurely ages both men and women. When the tea is fresh and has been newly opened, it has such force (as I experienced myself in the East Indies) that after drinking four to five cups all your limbs begin to tremble and you get light-headed.

In 1665, Simon Paulli, German physician to the king of Denmark, fulminated against tea and tobacco, and also discouraged the use of coffee and chocolate. One wonders what Paulli would have thought of the famous French chef François Massialot, who recorded his celebrated recipes,[38] and who in 1692 reportedly experimented with the smoking of tea like tobacco, which he advocated especially when the tea leaves had been moistened with a few drops of brandy.[39] At least with regard to the noxious nature of tobacco, Paulli's observations were correct, although they were at the time already not new. Like Baldæus, Paulli believed that tea dessicated,[40] and he argued in an uninformed manner against the writings of Tulp, whose spelling *Theé* he adopted precisely from Tulp's chapter title, even down to the acute accent on the second *e*. Paulli's work, though already cogently

35 Paul Arthur van Dyke. 2005. *The Canton Tea Trade: Life and Enterprise on the China Coast, 1700–1845*. Hong Kong: Hong Kong University Press.

36 Hosea Ballou Morse. 1926, 1929. *The Chronicles of the East Indian Company trading to China 1635–1834* (five volumes). Oxford: Clarendon Press.

37 Baldæus (1672: 183).

38 François Massialot. 1693. *Le Cuisinier royal et bourgeois, Qui apprend à ordonner toute forte de Repas, & la meilleure maniere des Ragoûts les plus à la mode & les plus exquis, Seconde Edition, revûë & augmentée*. Paris: chez Charles de Sercy; 1694. *Le Cuisinier royal et bourgeois, Qui apprend à ordonner toute forte de Repas en gras & en maigre, & la meilleure maniere des Ragoûts délicats & les plus à la mode; & toutes fortes de Pâtifferies: avec des nouveaux deffeins de Tables, Tome Second*. Paris: chez Claude Prudhomme.

39 Gilles Brochard. 2005. 'Time for tea', pp. 57–148 in Anthony Burgess, ed., *The Book of Tea*. Paris (p. 137).

40 Simon Paulli. 1665. *Commentarius de Abusu Tabaci Americanorum veteri, et herbæ Theé Asiaticorum in Europa novo*. Argentorati [Straßburg]: Sumptibus Authoris Filii Simonis Paulli, Bibliop. [i.e. Simon Paulli].

dismissed by Bontekoe in 1678, was translated into English in 1746.[41]

In 1748, John Wesley, the founder of the Methodist religion, published a tract exhorting his followers not to drink tea because, as a young man in Oxford, he got the jitters from drinking too much strong tea and was horrified by what he perceived to be the 'Symptoms of a Paralytick Disorder' which he fancied brought him 'near the Chambers of Death'.[42] Anyone who has ever overindulged in the binge drinking of Turkish tea or Japanese *sencha* may have experienced the same jitters that were described by Baldæus and Wesley. Later, Wesley would tone down his categorical rejection of tea in his 1761 medical manual *Primitive Phyſick*, but he still cautioned that 'Coffee and Tea are extremely hurtful to Perſons who have weak Nerves', and 'No wiſe Parent should ſuffer a Child to drink any *Tea*; (at leaſt 'till it is ten or twelve Years old) or to taſte Spice or Sugar'.[43]

Over half a century later, in 1826, a patriotic tea trader in London would cast aspersions on Wesley's trepidations after the Royal Navy had introduced tea as a component of the daily ration in 1824.

> I may observe, that the Government has lately introduced the use of Tea in the Navy, and entertain no suspicion that our future enemies will have to contend with bilious and nervous sailors, instead of hearts of oak and sinews of iron.[44]

In English translation, Paulli's work inspired Jonas Hanway in 1756 to write a famous philippic, in which he advocated abolishing 'the use of a Chinese drug called tea', and recommended that people should instead take infusions of sage, rosemary, thyme, sorrel or angelica.

The first edition of the book was anonymous, but in *The Literary Magazine*, the famous Dr. Samuel Johnson (1708–1784) quickly identified Hanway as the book's author, who 'has not printed it for ſale, but diſtributes it among his acquaintance'.[45] In Johnson's first instalment, he contented himself merely with identifying the author and republishing a number of the more titillating extracts from Hanway's book. Hanway's complaints against tea are various in nature, but one issue that was raised by Hanway is cited by Johnson, and, as history would later show us, this issue was not to go away.

> If we compare our conduct with that of other nations, we ſhall ſee that no people upon the face of the whole earth, are guilty of ſo great an abſurdity in commerce … If to *Great Britain* and *Ireland* we add his Majeſty's *American* dominions, I apprehend that all the *European* nations who trade to *China* have of late years loaded us with near as much as we bring from thence, *viz.* three millions of pounds weight.[46]

Within months, an enlarged edition of Jonas Hanway's book appeared. Samuel Johnson was again quick to respond. In a dazzling piece of satirical prose, in which he lampoons Hanway's book, Johnson first paints a burlesque picture of himself in his opening declaration.

> We ſhall now endeavour to follow him regularly through all his obſervations on this modern luxury; but it can ſcarcely be candid, not to make a previous declaration, that he is to expect little justice from the author of this extract, a hardened and ſhameleſs tea-drinker, who has for twenty years diluted his meals with only the

41 Paulli, Simon. 1746. *A Treatise on Tobacco, Tea, Coffee, and Chocolate … Written originally by Simon Pauli; and Now Tranſlated by Dr. James*. London: T. Osborne.

42 John Wesley. 1748. *A Letter to a Friend concerning Tea*. London: W. Strahan.

43 John Wesley. 1761. *Primitive Phyſick: or, an Easy and Natural Method of curing Moſt Diseases*. London: W. Strahn (pp. xx, 122).

44 A Tea Dealer (1826: 69).

45 Samuel Johnson. 1756. Review of *A Journal of Eight Days Journey* … 'Calculation of the expence of tea', *The Literary Magazine: or, Universal Review*, I (VII): 335–342.

46 Johnson (1756: 340, 342).

FIGURE 8.10
Jonas Hanway in 1785, as portrayed by James Northcote, National Portrait Gallery, London

> infufion of this fafcinating plant, whofe kettle has fcarcely time to cool; who with Tea amufes the evening, with Tea folaces the midnight, and with Tea welcomes the morning.[47]

Johnson plays down the importance of tea and ridicules Hanway's assertions that the British economy lost labour through idleness wasted on tea. Hanway actually had made the noteworthy observation that tea had reached the working class and that a tea ration sometimes even formed part of workers' wages. The accessibility of tea to the English working class resulted from the robust and competitive tea trade which brought the average price of 35 shillings for a pound of Bohea in 1709 down to 14 shillings for a pound of Bohea by 1775.

Yet Hanway's plaintive style and his noteworthy observation that the 'ufe of tea defcended to the *plebeian* order amongft us' gave Johnson ample justification to exercise his sarcastic wit, parrying that tea was certainly not intended for the lower classes.

> Tea among the greater part of thofe who ufe it moft, is drunk in no great quantity. As it neither exhilerates the heart, nor ftimulates the palate; it is commonly an entertainment merely nominal, a pretence for affembling to prattle,

47 Samuel Johnson. 1757. Continuation of the review of *A Journal of Eight Days Journey* … 'Chinese method of making tea', *The Literary Magazine: or, Universal Review*, II (XIII): 161–167.

FIGURE 8.11
Samuel Johnson in 1756, as portrayed by Joshua Reynolds, National Portrait Gallery, London

for interrupting bufinefs or diverfifying idlenefs … I have no defire to appear captious, and fhall therefore readily admit, that tea is a liquor not proper for the lower claffes of the people, as it fupplies no ftrength to labour, or relief to difeafe, but gratifies the tafte without nourifhing the body. It is a barren fuperfluity, to which thofe who can hardly procure what nature requires, cannot prudently habituate themfelves. Its proper ufe is to amufe the idle, and relax the ftudious, and dilute the full meals of thofe who cannot ufe exercise, and will not ufe abftinence. That time is loft in this infipid entertainment, cannot be denied; many trifle away at the tea-table, thofe moments which would be better fpent; but that any national detriment can be inferred from this wafte of time, does not evidently appear, becaufe I know not that any work remains undone for want of hands.[48]

In lampooning Hanway's arguments, even Dr. Johnson was compelled to concede one of his points, the same issue that Hanway had raised in his first edition.

His next argument is more clear. He affirms that one hundred and fifty thoufand pounds in filver are paid to the *Chinefe* annually, for three millions of pounds of tea, and that for two

48 Johnson (1757: 164, 166).

> millions more brought clandeftinely from the neighbouring coafts, we pay at twenty-pence a pound, one hundred and fixty-fix thoufand six-hundred and fixty-fix pounds.

Before writing his essay on tea, Hanway had lived at Lisbon and St. Petersburg and travelled from the Caspian Sea to the Baltic and then through Germany and Holland. Despite Dr. Johnson's gleeful derision, Hanway's understanding of the trade deficit reflected his worldly experience and a prescient and long-sighted view. However, Dr. Johnson naturally makes light of this too.

> It is certain, that thofe who drink tea, have no right to complain to thofe who import it, but if Mr. Hanway's computation be juft, the importation and the ufe of it ought at once to be ftopped by a penal law.[49]

At the end of this brilliant piece, Johnson's mirthful tone did not, of course, relent, but the point which Johnson more or less grudgingly conceded at the conclusion of his review was an economic insight with regard to which Hanway appears to have been spot on.

Unlike John Wesley, Jonas Hanway spilt less ink on the purported deleterious effects of tea on health, although he did commit to writing a number of preposterous claims such as 'lives shortened by tea', depicting tea as a slow acting poison. His once widely read book may even have inspired the baffling practice of adding a squeeze of lemon to one's tea, since Hanway popularised the misconception that the Chinese added 'acids' to their tea instead of sugar, as the English did, and, somewhat inconsistently, recommended the practice on one hand whilst abjuring tea altogether on the other.[50] Yet the main thrust of Hanway's treatise was set by his exhortations to abandon the habit of tea drinking altogether.

Most of the girth of his philippic against tea was preoccupied with the burden which widespread tea consumption in England placed on the British treasury and the English economy.

> the fubject of our prefent inquiry relates to the fum of above two hundred thoufand pounds fent annually to *China*, near one hundred and fifty thoufand of which I apprehend is laid out in *tea*, being about one fhilling a pound, good and bad teas together, on three millions of pounds of weight … If to this we add two millions of pounds of tea, paid for at only twenty pence a pound, to *France, Holland, Sweden, Denmark*, and *Prussia*, it amounts to £166,666, exclufive of what *Ireland* and *America* take off. All this we muft reckon as paid for either in gold or filver. I am perfuaded our whole export for this pernicious article, is between 3 and £400,000 … and £300,000 is a very large part of our *annual balance* …[51]

Hanway observed that neither the Netherlands nor Germany were afflicted by this problem in the same way that the British were:

> The *United Provinces* confume more than a third part of what they bring home, viz. near a million of pounds of weight … The *Germans* drink tea, but nothing compared with us, coffee being more in ufe …[52]

Taking all the various factors into account, Hanway computed the annual expense of tea to the British economy in 1756 at £2,691,665,[53] and he warned of the public debt and about the British East India Company's hunger for gold and silver just to pay for tea. This essay was not to be the last in which Hanway would mention tea in a political context.

The Spanish dollar or *real de a ocho* 'piece of eight reales' was a silver coin minted in New

49 Johnson (1757: 166).
50 Hanway (1756: 214).
51 Hanway (1756: 288–289).
52 Hanway (1756: 303).
53 Hanway (1756: 270).

FIGURE 8.12 Principal and obverse side of a *real de ocho* minted in the *virreinato de Nueva España* or New Spain during the reign of Fernando VI (*regnabat* 1746–1759)

Spain, where vast silver deposits had been found in Zacatecas and Taxco. Tea was paid for with silver, and much of the tea trade was conducted in these pieces of eight. Even after New Spain gained independence from Spain as the Mexican empire in 1821, which in 1823 became the Mexican republic, the Spanish dollar or Mexican peso continued to furnish the major unit of currency for the tea trade. Hanway bemoaned the 'many millions in silver' which were paid to the emperor of China 'for the purchafe of the *leaves* of his *ſhrubs*'.[54] The financial magnitude of this issue led him to cry out: '*In what are we to pay the difference?*'[55]

In time, the answer to his question would become opium. Hanway thought that he could appeal to the patriotism of British ladies and implored them to abandon the use of tea, urging them, 'you muſt love your *country* alſo', and '*British ladies* have been long conſidered the reverſe of *Mohammedan ſlaves*. Convince the world by your *actions* that you have the trueſt notions of *liberty* and *honor*'.[56] But his appeals to British ladies fell on deaf ears, and tea consumption did not decline, but rose steadily. British policy makers, however, were all too aware of the economic reality of the trade deficit, and would soon enough choose instead to resort to the drug trade to remedy this imbalance, with the British becoming the world's most zealous opium runners.

54 Hanway (1756: 339).
55 Hanway (1756: 292).
56 Hanway (1756: 358).

Gender, Tea Gardens and Tea Dances

Before the fashion of drinking tea blew over to England from Holland and France, tea drinking was already associated with women on the Continent. Although men were initially the biggest tea drinkers, women soon also indulged, and in the United Provinces *het Theesalet* 'the tea salon' was a women's social gathering amongst the well to do, hosted by a lady of standing at her home.[57] Meanwhile, English coffee houses had been the exclusive domain of Englishmen, and English women were barred from entering. By contrast, it was not regarded unseemly in England for women to drink tea. In 1694, in a comedy named *The Double Dealer*

57 Schotel (1867: 391–412).

by William Congreve, set to music by Henry Purcell, tea is already portrayed as the drink of gossiping women.

> *Carelefs*: No faith, but your Fools grow noify—and if a man muft endure the noife of words without Sence, I think the Women have the more Mufical Voices, and become Nonfence better.
>
> *Mellefont*. Why, they are at the end of the Gallery; retir'd to their Tea, and Scandal; according to their Antient Cuftome, after Dinner.[58]

The novel habit of drinking tea, first introduced to England just thirty-seven years earlier, is facetiously depicted as an ancient custom. Throughout this period, the tea table as the venue where gossip-mongering women would chat and spread scandal became a motif in English literature and art.[59] Some in England viewed the drinking of tea as a womanish practice, and this assignation of a gender connotation to the taking of tea would endure in England for some time.

In 1684, a weaver named Daniel Twining came from Painswick in the Cotswolds to London, where he settled at St. Giles in Cripplegate. His youngest son Thomas later worked for the East India merchant Thomas D'aeth, and then in 1707 Thomas Twining purchased Tom's Coffee House in Devereaux Court in London, where he began to sell coffee and tea. Although the taxes on tea were high, he managed to sell tea at 16 shillings a pound, and more. Queen Anne appointed Thomas Twining the purveyor of tea to the royal court in 1711. He gradually acquired adjacent buildings and in 1717 converted the coffee house into a tea shop named the Golden Lyon, with an entrance on the Strand, today at 216 The Strand.

In contradistinction to English coffee houses, women were allowed to enter Twining's tea shop. The Golden Lyon thereby opened up a new public domain to English women. Although from the outset men had also drunk tea in England, the drinking of tea soon continued to accrue an association with the feminine gender in British culture. Twining made a fortune selling tea to wealthy families, chemists and inn keepers. Thomas Twining purchased Dial House in Twickenham in 1720, and all the while tea houses were gaining in popularity. The lucrative nature of the tea trade equipped Thomas Twining with enough capital to operate a banking business from his tea shop. These financial operations alongside the tea business only expanded as time went on.[60] The surviving ledgers show that Twining supplied tea not just to other coffee houses, but also to milliners, mercers and drapers to cater to female buyers in a targeted fashion.[61]

As soon as women began to enjoy this new beverage, one Englishman was prompt to bemoan in 1722 the expense to men of supporting the women's tea drinking habit.

> a Japann'd Tea-Table, a Tea-Kettle, a Stand, a Tea-Pot, a Canifter, a Sugar Box, *China*-Difhes, Silver-spoons, and a Fork, cannot be had for nothing; befides what it cofts in Tea, Sugar, and Bread and Butter, for the Support of this fantaftick and ufelefs Equipage …[62]

58 William Congreve. 1694. *The Double-Dealer, A Comedy*. London: Jacob Tonfon, at the Judges-Head near the Inner-Temple-Gate in Fleet-ftreet (p. 2).

59 Ellis, Coulton and Mauger (2015: 85–91, 146–155).

60 In 1793, Thomas Twining's grandson Richard Twining was elected one of the directors of the British East India Company. When he died in 1824, his son Richard Twining II and his brothers took over the tea business and famously opened up a bank next door named Twining & Company, thereby establishing as a separate entity the banking business which the family had operated since 1717. Only in 1892 would Richard Twining III sell the bank Twining & Company to Lloyds of London.

61 Forrest (1973: 45, 46).

62 Whipping-Tom. 1722. *Whipping-Tom: or, a Rod for a Proud Lady, Bundled up in Four Feeling Discourses, Both Serious and Merry. In order to touch The Fair Sex to the Quick*. London: Printed for Sam. Briscoe, at the Roll-Savage on Ludgate-Hill; also at the Sun against John's coffee-house in Swithin-Alley, Cornhill (p. 16).

FIGURE 8.13 The Tea-Table, an etching from ca. 1720 showing women gossiping at tea, whilst Envy drives Justice and Truth from the room in the background and the devil lurks below the table,
COURTESY OF THE LEWIS WALPOLE LIBRARY, YALE UNIVERSITY

The writer cautioned that one could …

> better truſt his Hand in the Mouth of a Lion, his Subſtance to the Management of a Whore, his Conſcience to a Horſe-Courſer, or his Religion to a Synagogue of *Jews*, than his Purſe in the hands of his Wife, that's a Tea-Drinker.

The English pamphleteer, writing under the pseudonym of Whipping-Tom to chastise the 'Proud Lady', complained about the 'inſignificant Chitchat, and dull impertinent Diſcourſe, which theſe Tatterdemalions … have over their *Tea*'.[63]

Six years later, in 1728 in Henry Fielding's play *Love in Several Masques*, Lady Matchless made the pronouncement, 'Ha, ha, ha! Love, and Scandal, are the beſt Sweetners of Tea'.[64] That same year, in a work simultaneously indulging the two Anglo-Saxon penchants for prurient curiosity and indignant moral disapprobation, an anonymous Protestant writer attributed the proclivity amongst some young men to practise sodomy to an overly genteel upbringing, in which effeminate pursuits such as the drinking of tea featured prominently. Evidently the author believed that homosexuality arose in a young man when …

> the Tone of his Stomach has been ſpoiled with Tea … his Mamma had charg'd him not to play with rude Boys, for fear of ſpoiling his *Cloaths*; ſo that hitherto our young Gentleman has amuſed himſelf with Dolls, aſſiſted at mock Chriſtnings, Viſits, and other girliſh Employments, inviting and being invited to drink Tea with this or that School-fellow.[65]

In 1730, the English physician Thomas Short believed that tea alleviated 'nephritick Pains' caused by 'Stone, Gravel, or a mucillaginous Collection of Matter' and that '*Green Tea* is an Antidote againſt chronick Fear', but Short also argued that tea was 'More ſuitable to Women than Men' because women were more prone to a 'Fullneſs of Juices', whilst nature had 'framed them with a more lax and delicate Fibre'.[66]

In a poem published in London in 1734, Duncan Campbell flattered the female readers to whom the poem is primarily addressed, and he praised tea. The booklet opens with a dedicatory foreword 'To the Fair Sex' followed by a separate 'Preface to the Maſculine Reader'. The poet cautioned that whilst

> Tea is the Liquor of the Fair and Wiſe;
> It chears the Mind without the leaſt Diſguiſe
> But *Wine* intoxicates and wrongs each Senſe;
> Sweet, innocent, mild TEA gives no offence.[67]

Campbell advised '*That Women ſhou'd drink* Milk *and* Tea; *It ſuits their Conſtitutions beſt*'. The second

63 Whipping-Tom (1722: 18).

64 Henry Fielding 1728. *Love in Several Masques. A Comedy, As it is Acted at the Theatre-Royal by his Majesty's Servants.* London: John Watts (Act IV, scene XI, p. 61).

65 ca. 1728. *Plain Reasons for the Growth of Sodomy, To which is added, The Petit Maitre, an odd ſort of unpoetical poem, in the trolly-lolly ſtile.* London: A. Dodd and E. Nutt, reprinted in 1749 as 'Reasons for the Growth of Sodomy, &c.', pp. 45–62 in *Satan's Harveſt Home: or the Present State of Whorecraft, Adultery, Fornication, Procuring, Pimping, Sodomy, And the Game at Flatts, (Illuſtrated by an Authentick and Entertaining Story) And other Satanic Works, daily propagated in this good Proteſtant Kingdom. Collected from the Memoirs of an intimate Comrade of the Hon. Jack S**n**r, and concern'd with him in many of his Adventures.* London: Printed for the Editor (p. 48).

66 Thomas Short. 1730. *A Dissertation upon Tea, explaining its Nature and Properties By many New Experiments; and demonſtrating from Philoſophical Principles, the various Effects it has on different Constitutions. To which is added the Natural History of Tea; and a Detection of the ſeveral Frauds uſed in preparing it.* London Printed by W. Bowyer, for Fletcher Gyles (pp. 54, 57, 61).

67 Duncan Campbell. 1734. *A Poem upon Tea. Wherein its Antiquity, its ſeveral Virtues and Influences are ſet forth; and the Wiſdom of the ſober Sex commended in chuſing ſo mild a Liquor for their Entertainments. Likewiſe, the reaſon why the Ladies proteſt against all Impoſing Liquors, and the Vulgar Terms uſed by the Followers of* Bacchus. *Alſo, the Objections against* TEA, *anſwered; the Complaint of the Fair Sex redreſs'd, and the best way of proceeding in Love-Affairs: Together with the ſincere Courtſhip of* DICK *and* AMY, *&c.* London: Mrs. Dodd, at the Peacock without Temple Bar (pp. 6, 9–10).

half of the booklet contains 'Some Objections againſt TEA, anſwered, by way of Dialogue, between Dick Roſy-face and Amy Sweet-Lips, &c.', in which the opposing gender roles are further developed. The poet's words of caution regarding the consumption of wine are directed solely to women.

In 1742, amongst the poetical essays in the August issue of *The London Magazine*, an anonymous young lady composed a bizarre fable in verse entitled 'On Tea', in which she depicted the plant as having arisen from the blood of the mortally wounded impious deity Teannus, who embodied envy and was slain by one of Diana's arrows whilst committing some rapacious act. The poetess expressed the view that, whilst all men are driven by envy, this foreign potion poisoned the minds of women in particular.

> Envy in men, tho' in diſguiſe, preſides,
> It ſways the valiant, and the coward guides;
> Often, or fear, or emulation, nam'd,
> In all it rules, altho' by all it's blamed.
> …
> And as ſhe ſpoke, a beauteous ſhrub aroſe,
> 'Midſt that warm tide that from *Teannus* flows.
> Fair fruit and flowers the new-form'd plant did grace,
> Which *Tea* ſhe call'd, ſtill mindful of its race:
> Unchang'd its envious juices it ſtill retains,
> And darts its poiſon thro' it votary's veins.
> From *Indian* clime, at length to *Britain* brought,
> What madneſs 'mongſt the females it has wrought?
> Still, as their ebbing malice it ſupplies
> Some victim falls, ſome reputation dies …[68]

Gender asymmetries are old in tea culture in both the East and the West, and many persist in tea culture to the present day. For example, even today most tea tasters are still male, whereas most tea pickers are female. Tea has always been imbued with gender connotations, some of which, just as in Japan, change over time.

In 1753, the *Dictionary of Love* described *fribbles* as androgynous men who partook of the censorious tongue wagging which reigned supreme at women's tea tables and was 'as fond withal of ſcandal and all the tittle-tattle of the tea-table, as the verieſt women'.[69] In his 1756 tirade against tea, Hanway lamented the fact that a 'WARLIKE nation' such as Britain had adopted the tea sipping custom of the Chinese, whom he regarded as 'the moſt effeminate people on the face of the whole earth'. Hanway exclaimed, 'What will be the end of ſuch EFFEMINATE cuſtoms …!' and warned that tea would render the 'moſt VALIANT' nation the most 'EFFEMINATE'.[70]

During this period, the fashion of the tea garden and the tea dance came into vogue in London, and these new venues were open to both sexes. In 1732, the first tea garden opened in London when the New Springs Gardens, which had initially been established in Kennington in 1661, were rechristened Vauxhall Gardens. A fee was introduced for the open air rotunda and for various

68 'Tea, A Fable. By a Young Lady'. 1742. *The London Magazine. Or, Gentleman's Monthly Intelligencer*, Vol. XI, August 1742, pp. 408–409.

69 The *Dictionary of Love* defined a *fribble* as 'one of thoſe ambiguous animals, who are neither male nor female; diſclaimed by his own ſex, and the ſcorn of both … A wretch of this no-ſpecies, loves mightily the company of ladies, that he may come in for a ſhare of the amuſements that are going amongſt them, and which are more to his taſte than manly employments or exerciſe', for he 'loves to be conſulted in the cut of their cap, their tea, and the placing of their china-baubles' (88th and 89th unnumbered pages after the pages numbered in Roman numerals). 1753. *The Dictionary of Love. In which is contained, The Explanation of moſt of the Terms uſed in that Language*. London: Printed for R. Griffiths, at the Dunciad in St. Paul's Church-Yard. Although this dictionary is often purported to be an English reworking of the 1741 French *Dictionnaire d'Amour*, published in The Hague and attributed to Jean-François Dreux du Radier, the French source text contains no French counterpart to *fribble*. 1741. *Dictionnaire d'Amour, Dans Lequel on trouvera l'explication des termes les plus uſités dans cette Langue, Par M. de* *** La Haye.

70 Hanway (1756: 213, 245, 301).

FIGURE 8.14 The music hall at Vauxhall Garden in Kennington, engraving by Johann Sebastian Müller, published by John Bowles in 1751

attractions in the gardens. In 1736, a second tea garden opened south of the Thames in Cuper's Gardens on Lambeth Marsh across from Somerset House. Here too concerts were held, and the tea garden was open to women and men. An admission fee of a shilling was introduced, and the garden was initially a stylish venue. However, a few incidents of theft and the overly sybaritic behaviour of some of the clientèle, whence its nickname Cupid's Garden, prompted the withdrawal of the licence in 1753. The tea garden continued to run unlicenced for private events until 1760.

Drawing inspiration from these public tea gardens, it became fashionable for aristocrats to construct highly private and exclusive tea houses in their gardens. The famous *chinesisches Haus* was built by Frederick II of Prussia in 1763 in his park Sanssouci at Potsdam. In the 1770s, Castle Folly was built as a summer tea pavilion in the garden at Saltram in Devon. Fine tea houses from this period remain tucked away discretely in gardens today, reserved for the cognoscenti.

In 1738, Marylebone Gardens likewise became redesignated as a tea garden, where gentrified forms of entertainment could be pursued, including tea drinking and attending concerts by composers such as Georg Friedrich Händel (1685–1759). To this end the entrance fee was raised to a sixpence. Before becoming a tea garden, Marylebone Park already served as a pleasure garden, where people used to indulge in rude entertainments such as bull baiting, bear baiting, cock fighting, boxing and gambling. Previously, until 1646, Marylebone had served as a royal chase ever since Henry VIII had acquired it in 1554 and fenced it off as his private deer park. Today, Regent's Park is but a remnant of the former Marylebone Gardens. Regent's Park emerged when the entire area was

FIGURE 8.15 The Rotunda in Ranelagh Gardens at Chelsea in 1754, hand-coloured engraving by Charles Grignion (1721–1810), 26×40 cm, based on a painting by Canaletto and published by Robert Sayer in London
COURTESY AND COPYRIGHT OF THE VICTORIA AND ALBERT MUSEUM, LONDON

redesigned between 1809 and 1832 by John Nash, architect to the prince regent, later king George IV.

In 1742, Ranelagh Gardens opened in Chelsea with a large round dance hall called the Rotunda, far grander than the open air rotunda at Vauxhall Gardens. The Ranelagh Gardens Rotunda served as one of the main venues for the elegant tea dances of the period. The entrance fee here was two shillings and a sixpence. This demure form of entertainment remained in vogue until just before the Second World War. In America, the fashion of tea dances only became popular during the First World War but again died out rather soon thereafter, during the Great Depression. In England, however, tea dances remained more steadily in vogue. When the Waldorf opened in Aldwych in 1908, the hotel became a venue of choice for tea dances, which were referred to as *thés dansants.*

Meanwhile in France at the end of the 19th century and in the first half of the 20th century, tea assumed another significance in the argot of Paris, where taking tea was a metaphor for gay sex. The words *tasse* 'cup', *tasse à thé* 'cup of tea' and *théière* 'teapot' denoted a public convenience or other site where men could engage in cottaging. The term *prendre le thé* 'take tea' denoted indulging in acts of homosexual gratification.[71] Julia Kristeva and Jarrod Hayes have each explained how the writings of Marcel Proust can only be properly understood if the reader is aware of the *double entendres* intended in the subcultural argot of the period. Clearly not all of the characters in *À la recherche du temps perdu* were aware of the code, and the action of the narrative unfolds in the interface between the realms of sexual knowledge and ignorance on the

71 Brassaï [i.e. Gyula Halász]. 1976. *Le Paris secret des année 30*. Paris: Gallimard (p. 55); Jean-Paul Colin et Jean-Pierre Mevel. 1990. *Dictionnaire de l'argot*. Paris: Larousse (pp. 613, 618).

FIGURE 8.16 The tea dance floor inside the Rotunda at Ranelagh Gardens in 1754, oil on canvas by Giovanni Antonio Canaletto (1697–1768), 46 × 75.5 cm, National Gallery, London

part of the characters and, evidently also, on the part of some of Proust's readers, as when Palamède de Guermantes, the baron de Charlus *allait tous les jours avec Morel prendre le thé chez Jupien* 'went each day with Morel to take tea at the house of Jupien'.[72]

By the time that Jupien was indulging his preference for *les vieux messieurs* on the pages of Proust's *Sodome et Gomorrhe*, the first *salons de thé* had already just sprung up in Paris. One of these establishments was opened at 226 rue de Rivoli by the Austrian confectioner Anton Rumpelmayer in 1903, who named his *salon de thé* Rumpelmayer. Two years after his death in 1914, the establishment came to be run by his daughter-in-law Angelina, after whom the *salon de thé* has been named ever since. One of their regular clients happened to be Marcel Proust. The quiet ambiance of these establishments inspired fancy tea rooms elsewhere in the world.

Tea dances of a somewhat novel variety were revived in the 1960s at the Fire Island Cherry Grove and at the Pines, both on Fire Island just off the southern coast of Long Island in New York. At that time, it was illegal for New York bars to 'knowingly sell alcohol to homosexuals'. In this highly selective prohibitionist sense, the afternoon tea dances organised by gay men drew no attention, for tea was served instead of alcohol, and their timing enabled participants to take the last ferry back from Fire Island. In respect of the laws in force prior to the Stonewall riots of June 1969, the dancing involved no touching between the dance partners, but these exuberant tea dances were sybaritic affairs nonetheless.

After the Stonewall riots, these latter-day Sunday afternoon tea dances spread throughout North

72 Julia Kristeva. 1994. *Le temps sensible: Proust et l'expérience littéraire*. Paris: Gallimard (p. 34); Jarrod Hayes. 1995. 'Proust in the tearoom', *Proceedings of the Modern Language Association of America*, 110 (5): 992–1005.

FIGURE 8.17
Valentin Louis Georges Eugène Marcel Proust (1871–1922), detail from a 14.2 × 10.2 photograph taken in 1895 by Otto Wegener, private collection

America, where they were often hosted around swimming pools and in the gardens of posh suburban residences in the 1970s and 1980s, after which they too went out of fashion.[73] As the gay tea dances faded, in England tea dances of the more conventional variety came back into vogue in the 1980s and 1990s. Once again the Palm Court in the Waldorf was one of the favoured venues until the hotel changed hands in 2003.[74] The new Waldorf Hilton later resumed tea dances, but other venues such as the Paul Hamlyn Hall at the Royal Opera House and Spitalfields under the amphitheatre canopy came into vogue.

In recent years, the gay tea dance of the 1960s, 1970s and 1980s has nostalgically been reinvigorated in Paris, although the time of day has been shifted to the evening. The culture of tea dances that led to Stonewall represented a major turning point in American culture in reaction against a period of unseemly intolerance, during which homosexuals were associated or equated with communists. From 1950, a witch hunt against homosexuals and alleged communists was unleashed in the United States by senator Joe McCarthy, aided and abetted, rather perversely, by two closeted homosexuals, the attorney Roy Marcus Cohn and John Edgar Hoover, who headed the Federal Bureau of Investigation in Washington.

The Comintern or Communist International was established at its first world congress in Moscow in March 1919. Beginning with this 'First International', these congresses were held at irregular intervals until the 'Seventh International' in 1935. In 1936, the Comintern inspired the founding

73 Will Kohler. 2013. 'The very gay history of the almost lost tradition of the Sunday tea dance', *Back2Stonewall* ⟨http://www.back2stonewall.com/2013/11/gay-history-lost-tradition-sunday-tea-dance.html⟩, posted 24 November 2013, accessed 27 November 2013.

74 Jane Pettigrew and Bruce Richardson. 2014. *A Social History of Tea*. Danville, Kentucky: Benjamin Press (pp. 202, 230).

FIGURE 8.18
A flyer distributed on the street for one of the gay tea dances periodically held in Paris

of the *frente popular* in Spain and the *front populaire* in France. In a jocular reference to this swelling red tide, the celebrated gay Oxford don Cecil Maurice Bowra referred to himself as the leader of the 'Homintern', 'the 69th International' or the 'Immoral Front'.[75] Bowra used the pun 'Homintern' in writing as early as the 11th of August 1937, in his correspondence with Isaiah Berlin.[76]

75 Leslie G. Mitchell. 2009. *Maurice Bowra: A Life*. Oxford: Oxford University Press (p. 123); Noel Annan. 1999. *The Dons: Mentors, Eccentrics and Geniuses*. London: Harper Collins Publishers (p. 165). Maurice Bowra's inner circle included John Betjeman, John Sparrow, Isaiah Berlin and Kenneth Clark, whilst Stephen Spender, Cyril Connolly, Rex Warner, Cecil Day-Lewis, Osbert Lancaster and Henry Vincent Yorke were also close friends.

76 Leslie G. Mitchell. 2004. 'Bowra, Sir (Cecil) Maurice (1898–1971)', pp. 983–985, Vol. 6 in Henry Colin Gray Matthew and Brian Harrison, eds., *Oxford Dictionary of National Biography*. Oxford: Oxford University Press (p. 985).

Just a number or months earlier, the young Stephen Spender, whom Bowra favoured, had become a member of the Communist Party for a brief spell, during the winter of 1936 to 1937. Spender quickly became disillusioned with the thuggery and hypocrisy within the movement, and he later recounted his experiences in an influential volume of testimonials by former communists published in 1949.[77] In the wake of Oscar Wilde's trial and conviction in 1895, the allure of a utopian philosophy like communism for homosexual men lay in the opportunity offered by a contrarian ideology to rebel against a social order in which each gay man was involuntarily an outlaw by his very nature. Unlike what some politicians are fond of asserting, the rule of law does not represent a moral good whenever laws are unjust or, as is quite often the case, when some regulations are just inane.

A non-political animal such as Bowra kept himself above the ideologies of the starry-eyed in the cynical knowledge that the law applies in practice principally to the powerless, whilst the powerful remain largely above the law.[78] Anthony Powell, who maintained a warily distant friendship with Bowra beginning from the summer of 1924,[79] attributed the coinage 'Homintern' instead to Jocelyn Brooke, but Powell only first heard Brooke use the term some time after 1953, albeit with reference to a literary fashion of the 1930s.[80] With the exception of *Six Poems*, which Brooke brought out towards the end of his academic year at Oxford, which lasted from 1927 to 1928, Brooke took to publishing books only after the Second World War. Although Brooke apparently did not coin the term 'Homintern', it was in London in the 1930s that he became acquainted with the literary fashion for which he disapprovingly coined the term *homocommunism* in his novel *The Military Orchid* in 1948.[81]

Wystan Hugh Auden first used the expression 'Homintern' with a twist of irony in the April 1950 issue of the *Partisan Review*, in which he assailed the misappraisals of Oscar Wilde's writings by the Canadian anarchist George Woodcock. By this time, the term *Homintern* was already very much in current usage, as indeed it would have to have been in order for Auden to use the term to sarcastic effect in the title of his book review.[82] Since the *Partisan Review* was first launched in 1934 by the Communist Party of the United States of America, the periodical naturally remained under close government scrutiny. Soon after Auden's review, the editorial board was compromised by the Central Intelligence Agency, which even began partially

77 Stephen Spender. 1949. 'Worshippers from afar: Stephen Spender', pp. 229–273 in Richard Crossman, ed., *The God That Failed.* New York: Harper & Row.

78 In a mean-spirited review redolent of old-fashioned class warfare, Rónán McDonald condemns Bowra as a person with no consideration for the particular circumstances and conflicted spirit of his times (Rónán McDonald. 2009. 'The life and times of an Oxford don who never flowed quietly', *The Guardian*, 15 March 2009).

79 Anthony Dymoke Powell. 1976. *To Keep the Ball Rolling: The Memoirs of Anthony Powell, Volume I—Infants of the Spring.* London: William Heinemann.

80 Powell first made Brooke's acquaintance in 1953 and professed: 'I was never a close friend of Jocelyn Brooke's, but we corresponded quite often, and he was one of the people to whom one wrote letters with great ease' (Anthony Dymoke Powell. 1980. *To Keep the Ball Rolling: The Memoirs of Anthony Powell, Volume III—Faces in My Time.* London: William Heinemann, p. 1; Anthony Dymoke Powell. 1981. 'Brooke's Benefit', *London Review of Books*, 3 (7): 21–22 [16 April 1981], p. 22).

81 '… and the strident war-cries of homocommunism echoed from Russell Square all the way to Keats Grove …' (Jocelyn Brooke. 1948. *The Military Orchid.* London: The Bodley Head, p. 69).

82 Wystan Hugh Auden. 1950. 'A playboy of the Western world: St. Oscar, the Homintern martyr—*The Paradox of Oscar Wilde* by George Woodcock, Macmillan $3.50', *Partisan Review*, XVII (4): 390–394. No evidence has yet surfaced to date that would indicate that Auden's circle of friends at Oxford between 1925 and 1928, which included Cecil Day-Lewis, Stephen Spender and Frederick Louis MacNeice, went by any particular name at the time. In what he called a 'patchwork quilt' of his experiences, published in 1989, Harold Rosen, alias Harold Norse, credits himself with coining the term *Homintern*, ostensibly in 1939. In the very same sentence, Norse claims that the term then entered the English language when Auden soon thereafter 'used it in an

to fund the quarterly.[83] Although *Homintern* had started out as a playful coinage by an Oxford don, this term soon became familiar to American congressmen, federal investigators and administrators, most of whom were too obtuse to grasp the intricate reality behind the Oxonian pun. All the while, such a conspiracy never existed.

The period of McCarthyism in the United States was characterised by the baiting and persecution of homosexuals, who were driven from their employment and often incarcerated. In 1950, a congressional report entitled *Employment of Homosexuals and Other Sex Perverts in Government* concluded that, through the arrest of 457 gay men within the previous four years, 'considerable progress has been made in removing homosexuals and similar undesirable persons from positions in the Government'. Moreover, the report cautioned that: 'To pussyfoot or to take half measures' with regard to flushing out gay men would not serve the public interest.[84] In the following year, 1951, Carlisle Humelsine, deputy undersecretary of state, boasted of having ousted an additional 119 homosexuals from the State Department. Tomkins recorded that, during the subsequent decade of persecution, the term 'Homintern' was also widely used in the New York art world to denote 'a network of homosexual artists, dealers and museum curators'.[85]

In 1960, in an article in *Human Events*, Rosie Goldschmidt Waldeck, an author of cheesy historical novels, advocated the continuation of the pogrom against gay men to effectuate 'the elimination of homosexuals from all Government agencies and especially from the State Department'. Homosexuals, she asserted, comprised 'a sinister, mysterious and efficient international', since homosexuals as 'members of one conspiracy are prone to join another'. In her prurient imagination, homosexual men were a 'boon to the Comintern' because, as 'natural secret agents', 'upperclass homosexuals took up Marxism because they felt this brought them closer to their proletarian *ephebes*'. Homosexuality, she quaintly argued, operated by dint of 'the fusion it effects between upperclass and proletarian corruption'.[86]

The rather complex social phenomenon that Waldeck perceived simple-mindedly as 'the menace of homosexuality in politics' would last as long as gay men continued to suffer social and legal persecution. In 1970, a decade after Waldeck's screed, one year after Stonewall and in the heyday of gay tea dances, Gore Vidal still had ample cause to quip sardonically: 'The Homintern theory, however, is a constant obsession of certain journalists and crops up from time to time not only in the popular press but in the pages of otherwise respectable literary journals'.[87]

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article in the *Partisan Review* about 1941'. However, Norse's recollection is inaccurate, for Auden's article appeared in 1950. Moreover, Norse recalled first using the term in a letter which he wrote to Chester Kallmann and Auden, who, aside from a nine-week summer honeymoon to California in 1939, only began living together from 1947. The coinage might indeed have occurred to the minds of different individuals at different places and times, but the expression was already in use at the time remembered by Norse. Moreover, the English pronunciation of the initial sequence [hɒm] in *homosexual* renders the pun on Comintern [kɒmɪntəːn] facile, whereas the pun does not work quite as well with the American pronunciation of *homosexual*, a phonetic particular which likewise compromises the verisimilitude of Rosen's recollection (Harold Norse. 1989. *Memoirs of a Bastard Angel*. New York: William Morrow and Company, p. 77).

83 Hugh Wilford. 2008. *The Mighty Wurlitzer: How the CIA Played America*. Cambridge, Massachusetts: Harvard University Press (pp. 103–106).

84 John L. McClellan, et al. 1950. *Employment of Homosexuals and Other Sex Perverts in Government: Interim Report submitted to the Committee on Expenditures in the Executive Departments by Its Subcommittee on Investigations pursuant to S. Res. 280 (81st Congress) A Resolution Authorizing the Committee on Expenditures in the Executive Departments to Carry Out Certain Duties*. Washington: United States Government Printing Office.

85 Calvin Tomkins. 1980. *Off The Wall: Robert Rauschenberg and the Art World of Our Time*. New York: Doubleday (p. 260).

86 Rosie Goldschmidt Waldeck. 1960. 'Homosexual International', *Human Events*, XVII (39): 453–456.

87 Gore Vidal. 1970. 'Number One: *Everything you always wanted to know about sex*...* but were afraid to ask* by David Reuben, M.D., David McKay, 342 pp., $6.95',

Tea and Taxes

Ever since tea had been transformed from a medicinal condiment into a beverage, tea has always had everything to do with taxes, money and politics. As soon as tea suddenly gained in popularity and became an economically important commodity in China following the appearance of the *Chájīng* 茶經 'Classic of Tea' in 780, the government sought to skim off some of the profits. So, in the very same year as the publication of famous treatise by Lù Yǔ 陸羽, the emperor Dézōng 德宗 imposed the first tax on tea as soon as he noticed the suddenly raging popularity of the commodity. The government chose to tax tea not just because revenues from the direct taxation of agriculture had stagnated after the Ān Lùshān 安祿山 revolt between 755 and 763. Even after the restoration of Táng political control, commerce provided a more vulnerable and pliable prey for government taxmen, and the potential pickings for the government from taxing the tea trade proved too lucrative a prospect to resist.

It has always been in the way of government to skim off a share of the wealth whenever they see a good thing. This is part of what Max Weber in 1919 called the *Gewaltsmonopol des Staates* or the state's monopoly on violence,[88] a concept already implicit in the writings of Thomas Hobbes in 1651.[89] In 1944, Ludwig von Mises observed: 'The state is essentially an apparatus of compulsion and coercion. The characteristic feature of its activities is to compel people through the application or the threat of force to behave otherwise than they would like to behave'.[90] The British historian Arnold Toynbee described the earliest governments as arising when parasitic bands of brigands with superior weaponry and greater ruthlessness stumbled upon the idea of extorting a tax from sedentary agricultural populations in exchange for 'protection'.[91] In the West, this tradition of political philosophy has old roots.

In 1573, Jean Bodin pointed out that the principle of 'might makes right' embodies the prin-

New York Review of Books, 14 (11): 8–14. In emulation of Patrick Higgins, who entitled the last chapter of his 1993 anthology 'Homintern', Woods entitled his 2016 book *Homintern*. Gregory Woods' daring thesis that 'gay culture liberated the modern world' merits consideration, but his use of 'Homintern' as a conceit to refer to gay people collectively since the time of Oscar Wilde leads to anachronisms. For the purposes of historiography, Woods' literary device transgresses the bounds of poetic licence. The earliest attested usage of the term dates from the 11th of August 1937, and so it is ahistorical to speak of 'the European Homintern' in the context of affluent gay travellers from northern Europe taking their holidays in the Mediterranean at the beginning of the 20th century, about Capri having become 'a watering hole for the Homintern' in the 19th century, about 'a women's Homintern' at the beginning of the 20th century, or to speak of the 'Homintern' in the context the writings of Roy Campbell or in relation to *La destrucción de Sodoma*, a lost play completed by Federico García Lorca shortly before he was assassinated in 1936 (Patrick Higgins. 1993. *A Queer Reader*. London: Fourth Estate; Gregory Woods. 2016. *Homintern: How Gay Culture Liberated the Modern World*. New Haven, Connecticut: Yale University Press). Similarly, article 121 in the Russian penal code (cited as 'Article 112' by Woods, p. 233), which punished sodomy with imprisonment for up to five years and male rape with imprisonment for up to eight years, was essentially not newly adopted in 1960, but merely replaced the earlier article 154a, that had already been appended to the Russian penal code on the 1st of April 1934, punishing sodomy with imprisonment for a term of three to five years and male rape with imprisonment for five to eight years. The Soviet penal code contained no provision with regard to sodomy from 1917 until 1934 (Министерство юстиции РСФСР. 1950. *Уголовный Кодекс РСФСР*. Москва: Государственное издательство юридической литературы; Министерство юстиции РСФСР. 1960. *Уголовный Кодекс РСФСР*. Москва: Госюриздат).

88 Max Weber. 1919. *Politik als Beruf*. München: Verlag von Duncker und Humblot.

89 Thomas Hobbes. 1651. *Leviathan, or the Matter, Forme, & Power of a Common-Wealth Ecclesiasticall and Civill*. London: Andrew Crooke at the Green Dragon in St. Paul's Church-yard.

90 Ludwig Heinrich Edler von Mises. 1944. *Omnipotent Government: The Rise of the Total State and Total War*. New Haven, Connecticut: Yale University Press (p. 46).

91 Arnold Joseph Toynbee. 1972. *A Study of History*. Oxford: Oxford University Press; Arnold Joseph Toynbee. 1976 [posthumous]. *Mankind and Mother Earth: A Narrative History of the World*. London: Oxford University Press.

FIGURE 8.19
Jean Bodin (1530–1596), Archives municipales de la ville d'Angers

cipal difference between governments and bands of robbers and pirates:

> Nous auons dit en premier lieu droit gouuernement, pour la difference qu'il y a entre les Republiques, & les troupes de voleurs & pirates … La fouueraineté eft la puiffance abfoluë & perpetuelle … la puiffance de donner loy à tous, & à chacun en particulier … Soubs cefte mefme puiffance de donner, & caffer la loy, font compris touts les autres droicts, & marques de fouueraineté: de forte qu'à parler proprement on peut dire qu'il n'y a que cefte feule marque de fouueraineté: attendu que touts les autres droicts font compris en ceftui-là comme decerner la guerre, ou faire la paix …[92]

What we call the right of government essentially constitutes the difference between republics and groups of thieves and pirates … sovereignty is absolute and everlasting power … the power to impose law upon each and everyone … Under this same power to impose and to break

92 Iehan Bodin. 1576. *Les six livres de la Republique*. Paris: Chez Iacques du Puys, Librairie Iuré à la Samaritaine (Book 1, pp. 125, 197, 199). On the 14th of May 2017, Microsoft underscored the perennial nature of this likening by explicitly making the same comparison: 'The WannaCrypt exploits used in the attack were drawn from the exploits stolen from the National Security Agency, or NSA, in the United States … We have seen vulnerabilities stored by the CIA show up on WikiLeaks, and now this vulnerability stolen from the NSA has affected customers around the world. Repeatedly, exploits in the hands of governments have leaked into the public domain and caused widespread damage … this most recent attack represents a completely unintended but disconcerting link between the two most serious forms of cybersecurity threats in the world today—nation-state action and organized criminal action' (Microsoft. 2017. 'The need for urgent collective action to keep people safe online: Lessons from last week's cyberattack', 14 May 2017⟨https://blogs.microsoft.com/on-the-issues/2017/05/14/need-urgent-collective-action-keep-people-safe-online-lessons-last-weeks-cyberattack/#sm.00005z71th7wde3ptpj1k1vza7xji⟩).

> the law are subsumed all the other rights and features of a sovereign, so that in effect we might say that there is none other than this one characteristic of a sovereign, in view of the fact that all other rights are included therein, and this is to wage war or make peace.

It is in this spirit that the American journalist John Louis O'Sullivan, famous for having coined the expression 'Manifest Destiny', wrote the following words in October 1837:

> It is under the word *government*, that the subtle danger lurks … The best government is that which governs least.[93]

In 1849, the American philosopher Henry David Thoreau expanded upon this idea in his essay 'On the duty of civil disobedience'.

> I heartily accept the motto,—"That government is best which governs least;" and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe, "That government is best which governs not at all;" and when men are prepared for it, that will be the kind of government which they will have … Unjust laws exist: shall we be content to obey them, or shall we endeavor to amend them, and obey them until we have succeeded, or shall we transgress them at once? … I meet this American government, or its representative the State government, directly, and face to face, once a year, no more, in the person of its tax-gatherer; this is the only mode in which a man situated as I am necessarily meets it; and it then says distinctly, Recognize me; and the simplest, the most effectual, and, in the present posture of affairs, the indispensablest mode of treating with it on this head, of expressing your little satisfaction and love for it, is to to deny it then.[94]

Thoreau saw his duty to practise civil disobedience arising in the context of his annual confrontation with a tax collector, when the government would forcibly take away a portion of a person's earnings. The power of a government proffers no promise of its probity. Rather, the larger the government, the more spendthrift it becomes. Indeed, banking on the perennially profligacy of governments made the Rothschilds the richest family in the world from 1815 to 1914.[95] The idea of civil disobedience was not new. In bands of prehistoric hunter-gatherers, the submission to an alpha male or tribal chieftain may very well have been the natural order, grounded in our biology through the prudent assessment by the subjugated individuals that discretion sometimes represented the better part of valour.

Yet in the context of nation states and rulers, Étienne de la Boétie argued in 1576 that the division between the rulers and the ruled is an historically accidental one. He pointed out that we voluntarily submit to tyranny, first of all, because we are born and raised in such a system, and because the tyranny is profitable to perhaps as many people as the number of people who would stand to benefit from being free. The latter group is at the mercy of the former, who stand to benefit from the status quo.

93 John Louis O'Sullivan. 1838. 'Introduction: The democratic principle—The importance of its intention, and application to our political system and literature', *The United States Magazine and Democratic Review*, 1 (1): 1–15 (esp. p. 6). In 1853, the saying 'that government is best which governs least' was attributed to Thomas Jefferson by the Reverend Edward Peterson in his *History of Rhode Island and Newport in the Past* (New York: John S. Taylor, p. 41), but this attribution may very well be spurious.

94 Henry David Thoreau. 1849. 'Resistance to Civil Government: A Lecture delivered in 1847', pp. 189–211 in *Æsthetic Papers*. Boston: Elizabeth P. Peabody. (pp. 189, 197, 198–199). His essay currently circulates in the public domain under the later titles which it acquired, viz. 'On the Duty of Civil Disobedience' or just 'Civil Disobedience'.

95 Niall Ferguson. 1999. *The House of Rothschild* (two volumes). New York: Penguin.

> La premiere raison pourquoy les hommes servent volontiers, est pource qu'ils naissent serfs et sont nourris tels … En somme que lon en vient la par les faueurs ou soufaueurs, les guains ou reguains qu'on a avec les tirans, quil se trouve en fin quasj autant de gens ausquels la tirannie semble estre profitable, comme de ceus a qui la liberté seroit aggreable.[96]

> The first reason why men serve of their own free will is that they are born and raised as serfs … In the final analysis, this situation obtains because of the boons and benefits, gains or advantages that one has when one sides with the tyrants, so that there are just as many people for whom the tyranny is profitable as there are those to whom liberty would have been preferable.

According to Étienne de la Boétie, all that is required in order to liberate oneself from tyranny is an act of will on the part of the people to cease to serve their rulers, in other words civil disobedience.

> vous pouués vous en deliurer sj vous l'essaiés, non pas de vous en deliurer, mais feulement de le vouloir faire. soiés resolus de ne seruir plus, et vous voila libres[97]

> You can liberate yourself from the tyranny if you try, not by liberating yourself, but merely by wishing to do so. Simply be resolved to serve no longer, and you will already be free.

The United States of America was born in an orgy of acts of civil disobedience, and the most emblematic of these acts would feature tea as its primary prop.

96 Eftienne de la Boëtie. 1576. *De la servitude volontaire ou le contr'un* (Bibliothèque nationale de France, Département des manuscrits, Français 839, pp. 15, 21).

97 de la Boëtie (1576: 6).

Extraterritorial Taxation and the Boston Tea Party

In the wake of the Seven Years' War (*gerebatur* 1756–1763), Great Britain found itself in debt, and decided to resort to extraterritorial taxation on its North American colonies, enacting the Sugar Act in 1764 and the Stamp Act in 1765. This was not the first case in which parliament had taxed British subjects in the British overseas territories. The Molasses Act had been enacted in 1733 but this tax did not lead to a constitutional crisis because the tax was hardly enforced. Moreover, the small tax on molasses did not constitute an effort to raise revenue, but merely served as a protectionist measure to keep the price of imported molasses from the French West Indies just as high as the non-competitively priced molasses from the British West Indies.

A difference in kind obtained therefore between the earlier Molasses Act and the Sugar Act and Stamp Act, which were unilateral attempts to raise revenue through extraterritorial taxation of British subjects who were not represented in the legislature enacting the taxation. The response against this unconstitutional form of taxation from the Britons across the Atlantic was swift. At the Boston town meeting in May 1764, Samuel Adams held forth:

> For if our Trade may be taxed why not our Lands? Why not the Produce of our Lands & every thing we possess or make us of? This we apprehend annihilates our Charter Right to govern & tax ourselves—It strikes at our British Privileges, which as we have never forfeited them, we hold in common with our Fellow Subjects who are Natives of Brittain: If Taxes are laid upon us in any shape without our having a legal Representation where they are laid, are we not reduced from the Character of free Subjects to the miserable State of tributary Slaves?[98]

98 Harry Alonzo Cushing, ed. 1904. *The Writings of Samuel Adams*. New York: G.P. Putnam's Sons (Vol. 1, p. 5).

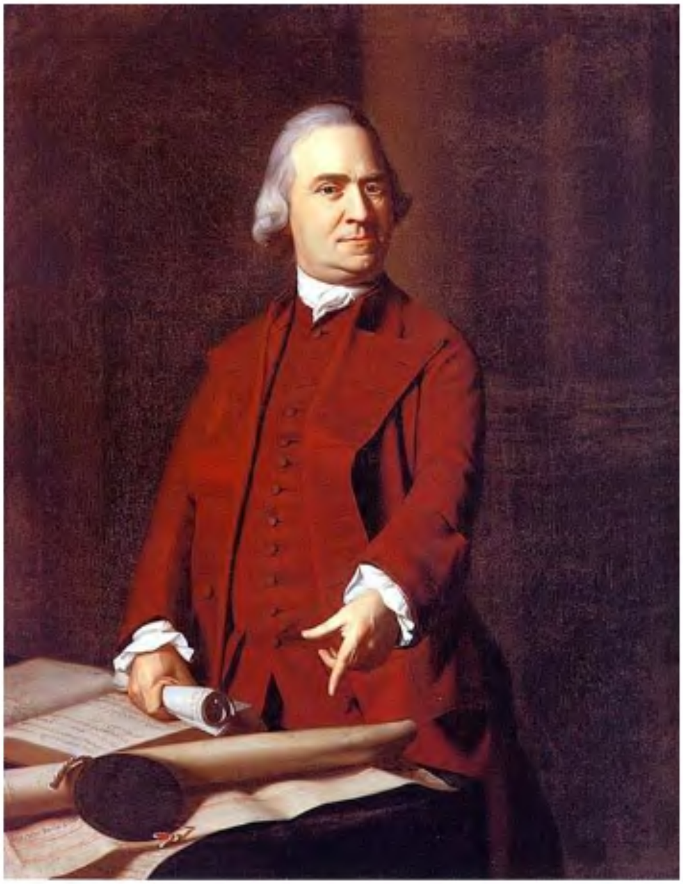

FIGURE 8.20
Samuel Adams in 1772, as portrayed by John Singleton Copley, Museum of Fine Arts, Boston

Samuel Adams formed a secret brotherhood of tax evaders which became known as the Sons of Liberty, who plotted and carried out acts of violence, vandalism and intimidation.

On the 30th of May 1765, nine days after being sworn into the House of Burgesses in Williamsburg, Patrick Henry, the representative from Louisa county, wrote the seven Virginia resolves, most of which were passed by the Virginia legislature.[99] The text of all seven resolutions was published in newspapers throughout the American colonies. In accordance with British constitutional law, the resolves stated that only Virginians should tax Virginians, whereas extraterritorial taxation had 'a manifest tendency to destroy British as well as American freedom'.[100] Similar resolutions were soon passed by other British legislatures in the American colonies. Patrick Henry joined the Sons of Liberty.

The Sugar Act and Stamp Act were repealed in London in March 1766, but Charles Townshend, the chancellor of the exchequer, soon proposed several bills in 1767 and 1768 to levy new taxes in the colonies on paint, lead, glass, oils and tea, and these pieces of legislation collectively became known as the Townshend Acts. Boycotts ensued, and in March 1770 these levies were all repealed except the duty of a threepence on a pound of tea. During this period of unrest, Charles Pratt, the 1st

99 Historical sources contradict each other as to whether four or five of the original seven resolves were passed by the House of Burgesses.

100 Samuel Eliot Morison. 1965. *Sources and Documents illustrating the American Revolution 1764–1788 and the Formation of the Federal Constitution*. London: Oxford University Press (pp. 14–18).

FIGURE 8.21
Charles Pratt, the 1st earl of Camden, in 1768, as portrayed by Nathaniel Dance, National Portrait Gallery, London

earl of Camden, argued at Westminster on behalf of the position adopted by the British legislatures in America and against those in parliament who viewed the constitutional protests in the Americas as mere effrontery.

Lord Camden's speech was published in London in the February 1768 issue of *The London Magazine*, also known as the *Gentleman's Monthly Intelligencer*, published each month 'By His Majesty's Authority'. Camden's speech brandished the slogan *'No Taxation without Reprefentation'* in the header.

> My pofition is this—I repeat it—I will maintain it to my last hour,—taxation and reprefentation are infeparable;—this pofition is founded on the laws of nature; it is more, it is itfelf an eternal law of nature; for whatever is a man's own, is abfolutely his own; no man hath a right to take it from him without his confent, either expreffed by himfelf or reprefentative, whoever attempts to do it, attempts an injury; whoever does it, commits a robbery; he throws down and deftroys the diftinction between liberty and flavery ...
>
> The forefathers of the A[mericans] did not leave their native country, and fubject themfelves to every danger and diftrefs, to be reduced to a ftate of flavery: they did not give up their rights; they looked for protection, and not chains, from their mother country: by her they expected to be defended in the poffeffion of their property, and not to be deprived of it.[101]

101 Charles Pratt, the 1st earl of Camden. 1768. 'L[ord] C[amden]'s Speech on the declaratory Bill of the Sovereignty of Great Britain over the Colonies', *The London Magazine. Or, Gentleman's Monthly Intelligencer*, Vol. XXXVII, February 1768, pp. 88–90.

The following year in the Houses of Burgesses in Williamsburg, George Washington tabled new resolves against the Townshend Acts, the text of which had been drafted by George Mason. These resolutions against extraterritorial taxation from London were passed unanimously in Williamsburg on the 16th of May 1769.[102]

The prime minister Frederick North (*obtinebat* 1770–1782) did not accept the argument that it was unconstitutional for parliament to tax British subjects wherever they lived, whether or not these Britons were directly represented in parliament. Yet in Boston, Samuel Adams qualified extraterritorial taxation and the 'Revenues arising from this tax unconstitutionally laid' to constitute 'Infringements and Violations of Rights'.[103] All the while, smuggled Dutch tea remained less expensive than British tea, and the British in the Americas were quite content buying the tea which Dutch merchants were able to offer both at a better price and of a higher quality than British tea. Many consumers in the British Isles, in fact, shared the same preference. In order to outlaw competition, all trade with merchants other than the British government monopoly was deemed to be illegal and had long been branded as smuggling.

Tea was an expensive commodity, and Dutch tea was readily available at ⅔ the price of British tea. The tea consumed by British colonists in the Americas was predominantly 'Dutch tea', as it was aptly called, and less than a quarter of the tea in the American colonies was purchased from the British government monopoly.[104] Meanwhile, the indignation in the colonies smouldered at Westminster's policy of taxing British subjects, no matter where they lived. Some British colonists demonstratively took to drinking various types of sometimes rather vile herbal infusions as tea surrogates.

Periodic agitation was common, but the lingering resentment came to a head when a cunning piece of legislation was devised by Frederick North. From 1772, parliament had raised the taxes on tea in England itself, and this policy had created a surplus of unsold British East India Company tea. The obvious market for the tea surplus were the British colonies across the Atlantic. At the same time, lord North insisted on retaining the Townshend duty in order to assert the prerogative of parliament to be able to tax British subjects wherever they lived. Frederick North therefore devised the Tea Act, which was enacted by parliament and signed into law on the 10th of May 1773.

The furtive aim of the Tea Act was twofold. The British East India Company was allowed to ship tea duty-free directly to newly designated consignees at Boston, New York, Philadelphia and Charleston, and this new arrangement cut out the middlemen and lowered the price of British tea, thus for the first time underselling Dutch tea in the British colonies. Whilst British Bohea had sold for three shillings a pound in 1772, it sold for just two shillings after the Tea Act, whilst the price of Dutch tea at that time was two shillings and one penny. Meanwhile the Townshend Act remained in force so that the undercutting of Dutch tea would naturally lead British colonists to buy the British East India Company tea, on which the Townshend duty of three pence per pound of tea had been paid.

The Tea Act was therefore a subterfuge to blandish the colonials into acquiescing to extraterritorial taxation whilst offloading the unsold surplus of British East India Company tea. Not only did the British colonies in the Americas serve as a dumping ground for a temporary glut on the British tea market, but parliament could in this way assert its prerogative to extraterritorial taxation. The British East India Company first contemplated the idea of selling their tea surplus on the Amsterdam market but were discouraged from doing so by the directors of Hope & Co., a tea trading and banking firm established by Scotsmen in Amsterdam, who pointed out that the excess tea

102 George Washington [introduced by] and George Mason [drafted by]. 1769. *Resolves of the House of Burgesses, paſſed the 16 of May, 1769*. Williamsburg: William Rind.

103 Morison (1965: 91–96).

104 Benjamin Woods Labaree. 1964. *The Boston Tea Party*. New York: Oxford University Press (pp. 7, 163, *passim*).

FIGURE 8.22 *The able Doctor, or America Swallowing the Bitter Draught*, etching from London dating from May 1774: lord North, with the *Boston Port Bill* protruding from his pocket, forces tea down the throat of a partially disrobed *America* whose arms are restrained by lord Mansfield, whilst lord Sandwich, a notorious womaniser, restrains her feet and peeks up her skirt. *Britannia*, standing behind America, averts her gaze, Library of Congress, Washington

would merely be smuggled back to England via ports such as Dunkirk.

The Tea Act created problems for many local tea merchants in the Thirteen Colonies, and members of the underground organisation Sons of Liberty seized upon the new situation to assert their constitutional rights not to be taxed from afar.[105] In December 1773, three ships, the *Dartmouth*, the *Eleanor* and the *Beaver*, were moored at the wharf in Boston, laden with tea. Thomas Hutchinson, governor of the province of Massachusetts Bay, delayed the unloading of the tea until the tax had been duly paid. On the evening of the 16th of December 1773, a group of men, led by Samuel Adams and disguised as native American Indians, emerged from the harbour tavern named the Green Dragon, boarded the three British East India Company ships and dumped into Boston harbour 342 chests of Bohea tea from Fukien province worth £10,000.

In a dispatch which Samuel Adams sent to his fellow conspirators in Plymouth at Cape Cod the following day, he reported …

> We inform you in great Haste that every Chest of Tea on board the three Ships in this Town was destroyed the last evening without the least Injury to the Vessels or any other property.[106]

105 Labaree (1964: 66–77, *passim*).

106 Harry Alonzo Cushing, ed. 1907. *The Writings of Samuel*

Also on the 17th of December 1773, John Adams wrote a prophetic entry in his diary.

> Last Night 3 Cargoes of Bohea Tea were emptied into the Sea. This Morning a Man of War sails.
>
> This is the most magnificent Movement of all. There is a Dignity, a Majesty, a Sublimity, in this last Effort of the Patriots, that I greatly admire. The People should never rise, without doing something to be remembered—something notable And striking. This Destruction of the Tea is so bold, so daring, so firm, intrepid and inflexible, and it must have so important Consequences, and so lasting, that I cant but consider it as an Epocha in History …
>
> The Question is whether the Destruction of this Tea was necessary? I apprehend it was absolutely necessary and indispensably so.—They could not send it back, the Governor, Admiral and Collector and Comptroller would not suffer it. It was in their Power to have saved it—but in no other. It could not get by the Castle, the Men of War &c. Then there was no other Alternative but to destroy it or let it be landed. To let it be landed, would be giving up [to] the Principle of Taxation by Parliamentary Authority, against which the Continent have struggled for 10 years, it was loosing all our labour for 10 years and subjecting ourselves and our Posterity forever to Egyptian Taskmasters—to Burthens, Indignities, to Ignominy, Reproach and Contempt, to Desolation and Oppression, to Poverty and Servitude.[107]

John Adams was the second cousin of Samuel Adams, but he had refrained from joining the Sons of Liberty because he did not want to sully his own hands in the ostentatious flouting of the rule of law which characterised their activities. Yet his support for the destruction of the tea was wholehearted because this highly costly gesture demonstrated their shared opposition to taxation from afar in a memorably theatrical fashion.

On the 25th of December 1773, a fourth British East India Company vessel, laden with tea, destined for Boston, was wrecked at Cape Cod.[108] What the future second president of the United States had referred to frankly at the time as the 'Destruction of the Tea' was also still referred to simply as 'the destruction of the tea at Boston' by American historiographers even up until 1859.[109] Only much later did the label 'Boston Tea Party' gain popularity after having first been used in print in 1834 in the memoirs of George Robert Twelve Hewes, an illiterate old man who at the time was the only known surviving participant of the event. His recollections were written up and published by an anonymous New Yorker who romanticised the destruction of the tea.[110]

The Boston Tea Party inspired other acts of protest against the extraterritorial taxation of British subjects. In Philadelphia in late December 1773, the tea vessel *Polly* was forced to turn back and return its cargo of tea to Britain. At the height of this wave of disloyalty towards the mother country, the indignation provoked by extraterritorial taxation inspired a brazenly seditious poem that was published in the *Virginia Gazette* on the 20th of January 1774.

> *A Lady's Adieu to her* TEA-TABLE
> Farewell the Tea Board, with its gaudy
> Equipage,
> Of Cups and Saucers, Cream Bucket, Sugar
> Tongs,

Adams. New York: G.P. Putnam's Sons (Vol. III, p. 72).

107 L.H. Butterfield, Leonard C. Faber and Wendell D. Garrett, eds. 1962. *Diary and Autobiography of John Adams (Volume 2, Diary 1771–1781)*. Cambridge, Massachusetts: The Belknap Press of Harvard University (pp. 85–85).

108 Richard Hildreth. 1849. *History of the United States of America from the Discovery of the Continent to the Organization of the Federal Government under the Constitution, 1497–1789, Volume III*. New York: Harper and Brothers (p. 30).

109 Hildreth (1849: 30); Goodrich (1859: 157).

110 A Citizen of New York. 1834. *Retrospect of the Boston Tea-Party with a Memoir of George R.T. Hewes, a Survivor of the Little Band of Patriots Who Drowned the Tea in Boston Harbor in 1773*. New York: S.S. Bliss.

FIGURE 8.23 The destruction of the tea in Boston harbour in a feverish frenzy of tax evasion, as depicted by Richard Johnson [under the pseudonym 'Rev. Mr. Cooper'] 1789. *The History of North America. Containing, a Review of the Cuftoms and Manners of the Original Inhabitants; The firft Settlement of the British Colonies, their Rise and Progress, from The earlieft Period to the Time of their becoming United, free and independent States. By the Rev. Mr. Cooper. Embellifhed with Copper-Plate Cuts*. London: Printed for E. Newbery, the Corner of St. Paul's Church-Yard (copper plate engraving between pp. 60 and 61, high-resolution image provided by the Library of Congress Prints and Photographs Division, Washington)

The pretty Tea Cheft alfo, lately ftor'd
With Hyfon, Congo, and beft Double Fine.
Full many a joyous Moment have I fat by ye,
Hearing the Girls tattle, the Old Maids talk
Scandal.
And the fpruce Coxcomb laugh at—may be—
Nothing.
No more fhall I difh out the once lov'd Liquor,
Though now deteftable,
Becaufe I'm taught (and I believe it true)
Its Ufe will *faften flavifh Chains upon my Country*,
And LIBERTY's the Goddess I would choofe
To reign triumphant in AMERICA.

On the 10th of September 1774, the Provincial Deputies of North Carolina resolved to boycott all tea and cloth shipped in from the British motherland. The following month, on the 27th of October 1774, at Edenton on the shores of the Albemarle Sound, inland from Kitty Hawk and Nag's Head in the Outer Banks, Penelope Barker organised a gathering at the home of Elizabeth King where 51 ladies signed a pledge forswearing British East India Company tea. This gathering was satirised in the London press. Several such demonstrations of dissent, particularly at Charleston, Philadelphia, New York, Annapolis and Edenton, have only relatively recently been labelled 'tea parties' by some students of history. Although such events were all

FIGURE 8.24 Meeting at the home of Elizabeth King organised by Penelope Barker on the 27th of October 1774, where 51 ladies signed a pledge forswearing British East India Company tea, entitled 'A Society of Patriotic Ladies, at Edenton in North Carolina' by Philip Dawe, published by Robert Sayer and John Bennett at London on the 25th of March 1775, high-resolution image provided by the Library of Congress Prints and Photographs Division, Washington

motivated by tax evasion and constituted violent protests against extraterritorial taxation, none had the theatrical flare of the destruction of the tea at Boston harbour, and none of these events were known to those involved at the time as 'tea parties'.

A century later, the Boston Tea Party would be aggrandised by Oliver Wendell Holmes (1809–1894), who read a poem entitled 'A ballad of the Boston Tea Party' at a meeting of the Massachusetts Historical Society at the centennial of the event on the 16th of December 1873. The last stanza of the poem reads as follows:

> The waves that wrought a century's wreck
>   Have rolled o'er Whig and Tory,—
> The Mohawks on the Dartmouth's deck
>   Still live in song and story,
> The waters in the rebel bay
>   Have kept the tea-leaf savor,—
> Our old North-Enders in their spray
>   Still taste a Hyson flavor;
> And Freedom's teacup still o'erflows
>   With ever fresh libations,
> To cheat of slumber all her foes
>   And cheer the wakening nations![111]

Only poetic licence could enable Bohea tea to acquire a Hyson flavour, but Holmes' celebratory tone strikes a sad note today, for matters have once again been brought full circle. Recent administrations of the United States government have betrayed the legacy of the Boston Tea Party and enacted far worse measures of extraterritorial taxation than those which gave rise to the indignation and triggered the secession of the Thirteen Colonies from Britain. As George Santayana pointed out with regard to learning the lessons which history teaches us, 'those who cannot remember the past are condemned to repeat it'.[112]

111 Oliver Wendell Holmes. 1874. 'A Ballad of the Boston Tea Party', pp. 56–58 in *Proceedings of a Special Meeting of the Massachusetts Historical Society, December 16, 1873; Being the One Hundredth Anniversary of the Destruction of the Tea in Boston Harbor*. Boston: Press of John Wilson and Son.

112 George Santayana. 1906. *The Life of Reason or the Phases of Human Progress* (five volumes). London: Archibald Constable & Co. Ltd. (Vol. 1 'Reason in Common Sense', p. 284). The observation was not original to Santayana, however. In a much quoted passage, Karl Marx wrote: Hegel bemerkt irgendwo, daß alle großen weltgeschichtlichen Thatsachen und Personen sich so zu sagen zweimal ereignen. Er hat vergessen hinzuzufügen: das eine Mal als Tragödie, das andre Mal als lumpige Farce. ['Hegel remarks somewhere that all great facts and personages in world history occur, as it were, twice. He forgot to add: the first time as tragedy, the second time as shabby farce.'] (Karl Marx. 1852. « Der 18te Brumaire des Louis Napoleon », Die Revolution: Eine Zeitschrift in zwanglosen Heften. (New-York, 18. Mai 1852), Erstes Heft, S. 1). What Hegel actually said was more subtle: Man verweis't Regenten, Staatsmänner, Völker vornehmlich an die Belehrung durch die Erfahrung der Geschichte. Was die Erfahrung aber und die Geschichte lehren ist dieses, daß Völker und Regierungen niemals etwas aus der Geschichte gelernt und nach Lehren, die aus derselben zu ziehen gewesen wären, gehandelt hätten. Jede Zeit hat so eigenthümliche Umstände, ist ein so individueller Zustand, daß in ihm aus ihm selbst entscheiden werden muß, und allein entscheiden werden kann. Im Gedränge der Weltbegebenheiten hilft nicht ein allgemeiner Grundsatz, nicht das Erinnern an ähnliche Verhältnisse, denn so etwas, wie eine fahle Erinnerung, hat keine Kraft gegen die Lebendigkeit und Freiheit der Gegenwart. ['Rulers, statesmen and peoples are mainly reproached on the basis of the lessons that they should have learnt from history. What experience and history teach us, however, is this—that peoples and governments have never learnt anything from history and would never have acted on principles that could have been deduced from it. Each time has its own peculiarities and represents its own unique situation, so that decisions must and can be made only within and based upon that specific context. No general principle or recollection of similar circumstances can be of any use in the maelstrom of world events, since such a thing as a pallid memory has no force against the vitality and freedom of the present.'] (Georg Wilhelm Friedrich Hegel. 1837. Vorlesungen über die Philosophie der Geschichte (Georg Wilhelm Friedrich Hegel's Werke, Vollständige Ausgabe, Neunter Band). Berlin: Verlag von Duncker und Humblot, S. 9).

FIGURE 8.25 The commencement of the *roemrijke overtocht* 'the glorious crossing' at Hellevoetsluis, as the Dutch *stadthouder* Willem III embarked for England, thereby precipitating the Glorious Revolution in November 1688, when Willem Hendrik van Oranje acceded to the English throne, the last time that England was successfully subdued by a foreign power, 88.9×116.8 cm, oil on canvas, Abraham Storck, National Maritime Museum, Greenwich

Ideological Legacy of the Boston Tea Party

Delegates from twelve of the Thirteen Colonies gathered to deliberate and plot secession for one month in the autumn of 1774 at Carpenters' Hall in Philadelphia. This meeting later came to be known as the First Continental Congress. The topics of deliberation included free trade, tea and taxes. Some historians have been wont to depict the Glorious Revolution of 1688 as a time when William III of the House of Orange brought to England the industriousness and Protestant work ethic of the Dutch nation. Any such transfer of diligence by the flamboyant *stadthouder* must, in view of the profligate nature of his court, have been entirely symbolic, or at least have had precious little to do with the *stadthouder* himself and his flamboyant Dutch favourites at the English court.

Jonas Hanway, the author of the *Effay on Tea* that had been lampooned by Samuel Johnson, wrote a pamphlet entitled *Common Sense* in 1775. Hanway deprecated the act of 'deftroying private property by violence; and manfully commencing hoftilities againft inanimate chefts of tea' in Boston harbour.[113] He posed the rhetorical question 'Was it

113 Jonas Hanway. 1775. *Common Sense: in Nine Conferences, between a British merchant and a candid merchant of America, in their private capacities as friends, tracing the feveral caufes of the prefent contefts between the mother country and her American fubjects; the fallacy of their*

not a *defperate* kind of behaviour to throw fuch a vaft qualtity of tea into the fea?', and rightfully assailed the disingenuous pretence upheld by the American colonials at the time that the tea had been 'thrown into the fea by a *riotous mob*', whilst in fact the act had been plotted and precisely executed according to a previously scripted scenario.[114]

Hanway argued that a tax of a threepence upon a pound of tea imposed upon the American colonials did not constitute a violation of English constitutional rights in view of the heavy taxation to which British subjects living within Britain were subjected in order to raise the revenue to protect the British colonies in the Americas.[115] He qualified the tax on tea as merely 'a commercial regulation' and prevailed upon the patriotism of the British colonists.[116]

The following year, the Englishman Thomas Paine in retort to Hanway abjured patriotism for the mother country and endorsed the secession of the colonies in a pamphlet which he likewise entitled *Common Sense* in direct allusion to Hanway's piece.[117] Paine wrote that 'government even in its beft ftate is but a neceffary evil; in its worft ftate an intolerable one'. In this context, there is a sliver of historical irony in Hanway's having been so heavily influenced by the writings of the Dutch *émigré* political philosopher Bernard de Mandeville (1670–1733), whose father Michael de Mandeville was banished from Rotterdam in 1693 for his involvement in the riots of the 5th of October 1690.

This revolt against the parasitic tax regime practised by the Rotterdam municipal authorities took place in the wake of the public beheading in September 1690 of Cornelis Costerman, militiaman in the municipal *schutterij*, for evading taxes and mortally wounding a tax collector in self defence. The October 1690 riots in Rotterdam culminated in the pillaging of the opulent residence of the much hated bailiff Jacob van Zuylen van Nijevelt.

In his *Fable of the Bees*, Bernard de Mandeville in 1714 presaged the work of Adam Smith in writing that a society of individuals pursuing their own interests would end up working in concerted harmony to bring about the public good, as long as transactions in trade were kept honest by the exigencies of the market or, in the metaphor employed in Mandeville's fable, by the god Jupiter. The outcome of this natural process in society, as Mandeville wrote in his doggerel verse, entailed that …

To fuch a Height, the very Poor
Liv'd better than the Rich before[118]

On the 9th of March 1776, Adam Smith published his *Inquiry into the Nature and Causes of the Wealth of Nations*, in which the Scotsman held up the capi-

prepoffeffions; and the ingratitude and danger of them; the reciprocal benefits of the national friendfhip; and the moral obligations of individuals which enforce it; with various anecdotes, and reafons drawn from facts, tending to conciliate all differences, and eftablifh a permanent union for the common happinefs and glory of the Britifh empire. London: J. Dodfley, in Pall-Mall; and Brotherton and Sewel, in Cornhill (p. 23).

114 Hanway (1775: 64, 65).

115 At the time that it was discontinued, the threepence [ˈθrɛpəns ~ˈθrʌpəns ~ ˈθrɪpəns] was the smallest silver coin in use in Great Britain.

116 Hanway (1775: 26, 85).

117 Thomas Paine. 1776. *Common Sense; addressed to the Inhabitants of America, on the following Interesting Subjects. I. Of the Origin and Defign of Government in general, with concife Remarks on the Englifh Constitution. II. Of Monarchy and Hereditary Succeffion. III. Thoughts on the prefent State of American Affairs. IV. Of the prefent Ability of America; with fome mifcellaneous Reflections. A New Edition, with feveral Additions in the Body of the Work. To which is added an Appendix; together with an Addrefs to the People called Quakers. N.B. the New Addition here given increafes the Work upwards of One-Third.* Philadelphia, printed; London, re-printed, for J. Almon, oppofite Burlington-Houfe in Piccadilly.

118 Bernard Mandeville. 1714. *The Fable of the Bees: or, Private Vices Publick Benefits. containing, Several Difcourfes, to demonstrate, That Human Frailties, during the degeneracy of Mankind, may be turn'd to the Advantage of the Civil Society, and made to fupply the Place of Moral Virtues.* London: printed for J. Roberts, near the Oxford Arms in Warwick Lane (p. 10).

talist practices of the United Provinces as exemplary.[119] About tea and the realities of the market, Smith wrote:

> All the fanguinary laws of the cuftoms are not able to prevent the importation of the teas of the Dutch and the Gottenburgh East India companies; because fomewhat cheaper than those of the British company.

The Scotsman's exhortations to respect the market mechanism had already been understood, for his British compatriots had begun to undersell Dutch tea in the Americas.

What they had underestimated, however, was the revulsion that extraterritorial taxation from afar would provoke, and in the end the realisation came too late for Britain to retain her hold over her North American colonies. Just four months later, on the 4th of July 1776, the Declaration of Independence was adopted by the Second Continental Congress in Philadelphia. Thomas Jefferson, the principal author of the document, was an inveterate tea drinker, consuming twenty pounds of tea annually and indulging a preference for young Hyson, though he would settle for regular Hyson if the price for young Hyson were too steep.[120]

The Tea Act was essentially repealed in 1778 by the Taxation of Colonies Act, but this too came too late, for the American war of secession (*gerebatur* 1775–1783) was then well under way. What is presented to American schoolchildren as the 'American Revolution' is an historical misnomer. In America, no actual revolution took place, as it did in France beginning from 1789, in Russia in 1905 and then again in 1917, or in Iran in 1979. The American conflict was a civil war between British subjects on two sides of the Atlantic, which grew into a war of secession by the British colonists against their motherland.

Extraterritorial taxation from Westminster, which constituted a breach of British constitutional law, elicited disloyalty. American secession was different in kind from the independence of Indonesia from the Netherlands or from that of India from Britain, for America was not an anticolonial power, but an excrescence of European imperialism, made possible by the often ruthlessly violent demographic replacement of the native American peoples by an immigrant population.[121] After the war of secession, those who had remained loyal British subjects during the conflict suffered the expropriation of their property and other injustices as 'loyalists'.

Meanwhile, the words of Adam Smith were left unheeded in Britain itself, and parliament continued to impose an import duty of 119% on tea, which served as an open invitation to smuggle tea. In this period only one third of the tea consumed in England was imported by the British East India Company. Most of the tea came from the Dutch East India Company, whilst Danish, Swedish, Prussian and French tea merchants also delivered tea to the avid English consumer market. In the Low Countries, Amsterdam was the principal centre

119 A century and a half before Smith, with regard to the 'means to enrich this Kingdom, and to encrease our Treasure', Thomas Mun, the director of the East India Company from 1615 until his death in 1641, wrote: 'The ordinary means therefore to encrease our wealth and treasure is by *Forraign Trade*, wherein wee must ever observe this rule; to sell more to strangers yearly than wee consume of theirs in value'. In the context of generating a trade surplus, Adam Smith developed the principle of the absolute advantage of a trading nation, resulting from its greater and more efficient productivity. Four decades later, this principle was reinterpreted by David Ricardo as the chirpy principle of comparative advantage, whereby all trading nations benefit from free trade (Thomas Mun. 1664 [posthumous]. *England's Treasure By Foreraign Trade. or The Ballance of our Forraign Trade is The Rule of our Treafure*. London: Thomas Clark, p. 5; Adam Smith. 1776. *An Inquiry into the Nature and Caufes of the Wealth of Nations* (two volumes). London: W. Strahan and T. Cadell in the Strand. David Ricardo. 1817. *On the Principles of Political Economy and Taxation*. London: John Murray).

120 Pettigrew and Richardson (2014: 47).

121 Washington Irving satirised even this tragic aspect of American history (Knickerbocker 1819, Vol. 1, pp. 69–77).

of the tea trade, and Middelburg was the second major centre. The principal source of income in Flushing or *Vlissingen* was the trade in smuggled tea.[122]

At the conclusion of the Constitutional Convention at Philadelphia on the 17th of September 1787, Benjamin Franklin cautiously agreed to the new Constitution, but foretold darkly that the government of the United States 'is likely to be well administered for a Course of Years, and can only end in Despotism as other Forms have done before it, when the People shall become so corrupted as to need Despotic Government, being incapable of any other'.[123] As is often observed, a nation of sheep will in time beget a government of wolves.[124] Some practices adopted by agencies of the United States government, which make up their own rules as they go along, appear to vindicate Franklin's portentous prophecy, particularly by law-breaking agencies that surreptitiously and systematically violate the provisions amended to the constitution to safeguard privacy and individual human rights.

At the end of the First World War, in writing about the 'tax state', Joseph Alois Schumpeter observed the importance of tax law and its central role in the lives of people and the history of societies.

> Vor allem iſt die Finanzgeſchichte jedes Volkes ein weſentlicher Teil ſeiner Geſchichte überhaupt: Ein ungeheurer Einfluß auf das Völkerſchickſal geht von dem wirtſchaftlichen Aderlaß aus, den die Bedürfniſſe des Staates erzwingen, und von der Art, wie das Ergebnis dieſes Aderlaſſes verwendet wird. Der unmittelbar formende Einfluß der Finanzbedürfniſſe und der Finanzpolitik der Staaten weiters auf die Entwicklung der Volkswirtſchaft und damit auf alle Lebensformen und Kulturinhalte erklärt in manchen Geſchichtsperioden ſo ziemlich alle groſſen Züge der Dinge und in den meiſten ſehr viel davon—nur in wenigen nichts … Welches Geiſtes Kind ein Volk iſt, auf welcher Kulturſtufe es ſteht, wie ſeine ſoziale Struktur ausſieht, was ſeine Politik für Unternehmungen vorbereiten mag—das und viel anderes noch ſteht phraſenbereit darin.[125]

The fiscal history of a people is above all an essential part of a people's overall history. An enormous influence is exerted on the destiny of nations by the economic bloodletting which the needs of the state compel and by the way in which the yield of this bloodletting is put to use. The immediate formative influence of the financial needs and the fiscal policy of the state on the development of the economy and consequently on all aspects of life and culture thus explains practically all the major courses of events in a great many periods of history, and in most periods this influence explains a great deal, and only seldom does it explain nothing … the spirit of a people, the cultural level which they have attained, their social structure, the type of enterprises which their policies

122 Mansvelt (1924: 134).

123 Benjamin Franklin. 1787. '"I agree to this constitution, with all its faults", Benjamin Franklin's speech at the conclusion of the Constitutional Convention, Philadelphia, September 17, 1787', pp. 3–5 in Bernard Bailyn, comp., 1993. *The Debate on the Constitution: Federalist and Antifederalist Speeches, Articles and Letters during the Struggle over Ratification. Part One: Debates in the Press and in Private Correspondence September 17, 1787—January 12, 1788, Debates in the State Ratifying Conventions, Pennsylvania, November 20–December 15, 1787, Connecticut, January 3–9, 1788, Massachusetts, January 9–February 7, 1788.* New York: The Library of America.

124 This quote is sometimes attributed to Egbert 'Edward' Roscoe Murrow and sometimes to Agatha Christie. At least the quote does not occur in Christie's 1939 novel *Ten Little Niggers* (London: Collins Crime Club), which is often cited as the source. The quote might originally be French and is also sometimes attributed to Bertrand de Jouvenel des Ursins, and then quoted either phrased as a rhetorical question « Un peuple de moutons ne finit-il pas par engendrer un gouvernement de loups? » or as a statement « Un peuple de moutons finit par engendrer un gouvernement de loups ».

125 Joſeph Alois Schumpeter. 1918. Die Kriſe des Steuerſtaats (Zeitfragen auf dem Gebiete der Soziologie, 4. Heft). Graz und Leipzig: Verlag Leuſchner & Lubenſky (pp. 6, 7).

will enable—all of this and more is written poignantly therein.

As a nation, America was born out of outrage at unjust extraterritorial taxation. Yet in the course of time, the new nation would, even within a century of its existence, begin gradually to backtrack on a number of its founding principles.

Taxes on the individual have historically been loathed because in their fiscal nature they are essentially like the tribute in servitude exacted by a feudal lord from his serfs. The first surrogate income tax was introduced in England in 1696 under William III in the form of a tax on windows, the number of windows being roughly proportional to a person's income and wealth. In the 18th century, this bad example was followed in Scotland and later also in republican France in the form of a tax on doors and windows. The British tax was repealed in 1851, and the French tax in 1926.

Modern income tax was first instituted in Britain in 1799 as a wartime measure under William Pitt the Younger during his first term as prime minister (*obtinebat* 1783–1801) in order to finance Britain's defence in the wars waged by France in the aftermath of the French revolution. The wartime measure of levying income tax was finally abolished in 1816, a year after the Battle of Waterloo. However, income taxes were reintroduced by the Income Tax Act of 1842 under Sir Robert Peel (*obtinebat* 1841–1846), who, by so doing, renegued on his election promises made as a candidate of the Conservative Party. The British example was followed by the Americans nineteen years later.

By the Revenue Act of 1861, income tax was first imposed in the United States in order to finance the war of the United States against the Confederate States of America (*gerebatur* 1861–1865), and in 1862 the office of Commissioner of Internal Revenue was established to levy this tax. In 1864, American citizens residing outside of the United States began to be taxed on their income, and from 1866 foreigners residing in the United States were also taxed on their income. These measures too must be understood as measures intended to be antagonistic to the other side in the American civil war between the northern and the southern states. It was during this time that Lysander Spooner wrote from Boston against slavery, against the rule of the majority imposing its will upon a minority and against infringements upon individual liberty which he perceived as being perpetrated by the United States government of his time.[126] Yet after the war, taxation on tobacco and distilled spirits once again provided an adequate source of revenue, and the wartime measure of income tax was abandoned in 1872.

Then, in the wake of the Panic of 1893, income tax was suddenly reintroduced in 1894 by Grover Cleveland during his second term as American president. At this time, the Columbia University economist Edwin Seligman noted that 'in the national income tax of 1894 in the United States, an American was taxed on his whole income, whether he resided in America or abroad' by what he assailed as constituting 'a great stretching of the principle of political allegiance'. Seligman also observed that the principle of fealty as a test of individual fiscal obligation was in practice applied by the state in an opportunistic fashion.[127] In April 1895, in light of these compelling principled and historical arguments, the Supreme Court ruled that individual income tax was unconstitutional.

Eighteen years later, the opponents of President William Howard Taft proposed an amendment to the constitution which would empower Congress to levy taxes on individual incomes. Taft opposed this because the Supreme Court had already ruled that income tax was at variance with the spirit and the founding principles of the American constitution. Yet in February 1913, the 16th amendment

126 Lysander Spooner. 1867. *No Treason. № I.* Boston: Published by the Author; Lysander Spooner. 1867. *No Treason. № II—The Constitution.* Boston: Published by the Author; Lysander Spooner. 1870. *No Treason. № VI—The Constitution of No Authority.* Boston: Published by the Author.

127 Edwin Robert Anderson Seligman. 1911. *Essays in Taxation* (7th edition). London: The Macmillan Company (pp. 115, 118).

was passed by the United States congress. After Woodrow Wilson became president in March 1913, the Democrats had control of both the congress and the White House. With the Revenue Act of 1913, they reintroduced income tax in America and at the same time lowered tariffs on trade. The first United States income tax forms were invented. At the time of the First World War, many European countries likewise introduced income tax.

In 1923, the League of Nations published the *Report by the Experts on Double Taxation* in order to avoid the injustices inherently arising from double taxation.[128] By imposing income tax on American citizens no matter where they lived, the United States had essentially taken sides with lord North, who had insisted on the principle that parliament was entitled to tax British subjects no matter where they lived. Although the new Internal Revenue Service adopted the principle and policy of lord Frederick North, in practice it was hardly feasible at that time to tax United States citizens who lived outside of the country.

Just as individual income tax was an invention of Anglo-Saxon statecraft, it was an English colonist in the Americas who appreciated that tax on the individual would be tantamount to a return to the feudal institution of serfdom under a new guise. In the *Federalist Papers*, Alexander Hamilton envisaged commerce as the principal tax base for generating revenue for the state, and he expressed his disapprobation of taxes on the individual, such as a poll tax.[129] Regardless of whether a country is formally a monarchy or a republic, individual income tax reduces each person to a serf of the state. Instead, the approach of taxing successful commercial enterprise, advocated by Hamilton, harked back in spirit to the taxation strategy of the Táng dynasty emperor Dézōng 德宗, who taxed the commerce of tea enterprises.

Legal experts at the Isaac Brock Society argue that citizen-based taxation has never been justified.[130] They transform citizens into prey prone to the caprice of extortionist bureaucrats who make up their own rules and opportunistically modify these rules outside of the purview of the lawmaking process by a representative legislature. Because citizen-based taxation degrades free individuals 'to the miserable state of tributary Slaves', to use the words of Samuel Adams, income tax was ruled to be unconstitutional in 1895. Today, in the Orwellian context of a surveillance state, the serfdom of citizen-based individual income tax provides an instrument of totalitarian population

128 Sunita Jogarajan. 2013. 'Stamp, Seligman and the drafting of the 1923 experts' report on double taxation', *World Tax Journal*, 5 (3): 368–292.

129 Mortimer F. Adler and Wallace Brockway, eds. 1952. *American State Papers: The Federalist by Alexander Hamilton, James Madison and John Kay—On Liberty, Representative Government, Utilitarianism by John Stuart Mill*. Chicago: Encyclopædia Brittanica (pp. 101–117).

130 'Cook v. Tait 1: Does Cook v. Tait really mean that citizenship-based taxation is constitutional in all cases?', *The Isaac Brock Society*, 4 January 2014 ⟨http://isaacbrocksociety.ca/2013/01/04/does-cook-v-tait-really-mean-that-citizenship-based-taxation-is-constitutional-in-all-cases/⟩; 'Cook v. Tait 5: Citizenship-based taxation was NEVER justified—League of Nations reports', *Isaac Brock Society*, 11 January 2014 ⟨http://isaacbrocksociety.ca/2013/01/11/cook-v-tait-5-citizenship-based-taxation-was-never-justied/⟩. The Isaac Brock Society 'consists of individuals who are concerned about the treatment by the United States government of U.S. persons who live in Canada and abroad' ⟨http://isaacbrocksociety.ca/2011/12/14/about-the-isaac-brock-society/⟩. The major general Sir Isaac Brock was a native of St.-Pierre-Port in Guernsey, where he was born in 1769 and where a commemorative plaque has been fitted onto the side of the Town Church, donated by the Department of Public Records and Archives of Ontario. He entered the British army in 1785 at the age of fifteen, became lieutenant colonel of the 49th Regiment of Foot in 1797, served in Europe until 1801, after which he was posted in Canada. He became President of the Executive Council and Administrator of Upper Canada, which today is called Ontario, and organised the defence of the colony. After the United States invaded Canada in July 1812, Brock organised the defence of the colony, captured the city of Detroit and, at Queenston Heights on the 13th of October 1812, he defeated the invaders from the United States, who were under the command of Stephen van Rensselaer. Brock died from his wounds during this last battle.

FIGURE 8.26 Alexander Hamilton as depicted on a United States 1953 series $10 silver certificate banknote, National Numismatic Collection at the Smithsonian Institution, Washington

control to bloated and ever more unaccountable government bureaucracies.

Instead, commerce presents the appropriate historical tax base for governments, whereby economic competition between nations places a natural constraint upon governments to refrain from imposing taxation to a degree that would debilitate national commerce and render the nation's enterprises less competitive. Giving free rein to the forces of natural selection in the market place, competition between economies and healthy tax competition between governments to entice successful enterprises to their shores by offering fair and lenient fiscal regimes will discourage the wasting of public revenue to fund bloated and parasitic bureaucracies.

A healthy reversal of the present-day trend could be achieved if trimmed down governments were to meet their obligation of defending the privacy and the rights of the individual rather than colluding with corporate enterprise and actors within the fossil fuels extraction industry and the financial sector to undermine these rights. Instead of devoting their resources to perpetrating totalitarian infringements against the rights of the individual, governments ought to fulfil their duties of protecting the natural environment, safeguarding vulnerable minorities from the discriminatory excesses of majority rule and supporting the humanities and sciences as well as those valuable cultural disciplines that happen not to be commercially viable.

Schumpeter coined the term 'creative destruction' and invoked the biological metaphor of a 'mutation' for any disruptive technological innovation that overhauls and transforms 'the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one'. In Schumpeter's view, the constant progress of transformative technological innovation is indispensable to capitalism, which he contended can only thrive in 'the perennial gale of creative destruction' or *im ewigen Sturm der schöpferischen Zerstörung*.[131]

The internet is one such mutation which has generated much creative destruction. In rendering possible new types of business, greater access

131 Joseph Alois Schumpeter. 1942. *Capitalism, Socialism and Democracy*. New York: Harper & Bros. (pp. 83–84). In the German, Schumpeter's prose appears to echo Mephistopheles' reply in Goethe's *Faust* in that each mutation 'unaufhörlich die alte Struktur zerstört und unaufhörlich eine neue schafft' (1946. *Kapitalismus, Sozialismus und Demokratie*. Bern: Verlag Alexander Francke, pp. 137–138). In either language, his seventh chapter on 'the process of creative destruction' is reminiscent of the Hindu god Śiva, the destroyer god whose loins bear the seed of renewal.

to knowledge and new avenues for freedom of expression, the internet has been a boon. However, when constricted and abused by government as an instrument of population control, the creative destruction of internet and big data can be and have already been widely misused in ways that undermine the rights of the individual.[132]

Friedrich August von Hayek advocated private money, arguing that a government monopoly on money was unnecessary. He foresaw 'the free issue of competitive currencies' protected from the caprice of central banks, so that in consequence 'monetary policy would neither be needed nor even possible'.[133] In fulfilment of his vision,[134] cryptographic currencies such as Bitcoin, Ethereum, Litecoin and Ripple have since 2011 begun to provide what may ultimately prove to be a means by which serfs of the state can escape from the fiscal bondage of individual taxation, unless these prove to be mere commodities of speculation that suffer from excessive volatility and generate speculative bubbles, rather than serve as actual currencies, as their detractors claim.

Governments and central banks are naturally wary of cryptocurrencies because attempts to legislate concurrent currencies and so to tax individuals might prove futile or technologically unfeasible by dint of the anonymity, decentralised and globally distributive character of blockchain technology. In November 2016, the Internal Revenue Service demanded that Coinbase, a digital currency exchange headquartered in San Francisco, divulge the names of its users because the new cryptocurrencies posed the same threat as Swiss banking secrecy to the government stranglehold on the currency supply and currency movements sought after by the United States of America.[135]

In 2017, Nepal and China restricted and banned cryptocurrency trading, and soon similar policies were enacted by Israel, South Korea, India and Thailand.[136] Other fearful governments might likewise in future criminalise the ownership of cryptocurrencies, just as the former Soviet Union once criminalised the possession of foreign exchange, for it is in consonance with the natural inclinations of government to seek totalitarian control of the monetary system.

On the other hand, the new cryptocurrencies potentially offer advantages undreamt of by von Hayek. Whilst operating on the assumption that all actors behave in their own selfish interests, the blockchain itself retains integrity, security and auditability, thus rendering banks and governments superfluous. It has therefore even been argued that, unlike fiat currencies, cryptocurrencies could enable the enforcement of nature conservation, environmental protection and food security and waging the war against corruption.[137]

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132 George van Driem. 2015. 'Symbiosism, Symbiomism and the perils of memetic management', pp. 327–347 in Mark Post, Stephen Morey and Scott Delancey, eds., *Language and Culture in Northeast India and Beyond.* Canberra: Asia-Pacific Linguistics.

133 Friedrich August von Hayek. 1976. *The Denationalisation of Money: An Analysis of the Theory and Practice of Concurrent Currencies*. London: Institute of Economic Affairs.

134 Satoshi Nakamoto. 2008. *Bitcoin: A Peer-to-Peer Electronic Cash System*, online white paper dated 31 October 2008.

135 Mathilde Farine. 2016. 'Pour Washington, le bitcoin, c'est le « nouveau secret bancaire »', *Le Temps*, vendredi 25 novembre 2016.

136 Nepāl Rāṣṭra Baiṅk विदेशी विनिमय व्यवस्थापन विभाग, केन्द्रीय कार्यालय, नेपाल राष्ट्र बैंक । 13 August 2017 [२०७४ साउन २९ गते]. विदेशी विनिमय व्यवस्थापन विभागको Bitcoin कारोबार गैरकानुनी रहेको बारेको सूचना । Kathmandu: State Bank of Nepal; Thuy Ong. 2017. 'China tightens cryptocurrency ban with new directive: Mainland access to foreign bitcoin exchanges online like Coinbase in the US would also be blocked', *The Verge*, 18 September 2017; Ilan Ben Zion. 2017. 'Israeli regulator becomes latest to crack down on bitcoin: Cryptocurrency groups barred from Tel Aviv exchange as international warnings mount', *Financial Times*, 25 December 2017; Song Jung-a and Bryan Harris. 2018. 'Bitcoin tumbles as South Korea plans trading ban', *Financial Times*, 11 January 2018; Darius McQuaid. 2018. 'Bitcoin *ban*: India rocks cryptocurrency by *outlawing* digital currencies from system', *Express*, 5 February 2018; Kevin Helms. 2018. 'Bank of Thailand bans banks from cryptocurrency activities', *Bitcoin News*, 13 February 2018.

137 Guillaume Chapron. 2017. 'The environment needs

Yet it would be in consonance with the natural proclivities of governments to seek totalitarian control of the monetary system.

A Threepence on a Pound of Tea and International Law

Studies of the documents of the period show that by 1764, not trade protectionism, which had played so prominent a role in the Acts of Navigation, but extraterritorial taxation was the key factor in triggering the American insurrection.[138] The grievance of the British subjects in the thirteen American colonies has today once again become a pressing issue. Extraterritorial jurisdiction is problematic because it violates the rule of law and the sovereignty of other nations, flouts international norms of conduct and infringes upon human rights.

On the 14th of February 1989, Ayatollah Khomeini issued a fatwa, urging every Muslim that it was his solemn duty to carry out a death sentence passed upon Salman Rushdie, a British national, for having authored *The Satanic Verses*, a work of fiction written and published in England. Twenty-seven years later, in February 2016, a consortium of forty state-run media organisations in the Islamic Republic of Iran essentially reaffirmed the fatwa by raising a sum of $ 600,000 as reward money for the pious devotee who carries out the death sentence pronounced against Rushdie. The extraterritoriality of Muslim jurisdiction extends the legal authority of Muslim clerics around the globe and presumes to contravene and supersede the legislation and cultural traditions of other societies.

In a similar vein, on the 5th of July 2014, United States secret service agents kidnapped a Russian citizen, Roman Val'erevič Seleznëv, in the Maldives to stand trial in the United States, a country that Seleznëv had never visited,[139] for alleged trangressions against United States laws purportedly committed in his own home country Russia.[140] The kidnapping was perpetrated at Malé international airport with the complicity of a Maldivian police superintendent with whom agents of the American State Department had struck up 'a close relationship'.[141] Imperialist interventions of this nature are anchored in the United States' mitigation of the territoriality of other nations as a principle of jurisdiction as well as by the unilateral assertion of its own jurisdiction globally.[142]

Austen Parrish asserts that the United States has in recent years 'withdrawn from international law and multilateral institutions', setting an unfortunate example that has begun to be followed by other countries. Parrish argues that the unilateral imposition of United States domestic law extraterritorially undermines the system of international law governed by consent-based rules and is often at variance with human rights.[143] In 2009, the Organisation for International Investment in

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cryptogovernance', *Nature*, 545 (7655): 403–405; Merlinda Andoni, Valentin Robu and David Flynn. 2017. 'Crypto-control your own energy supply', *Nature*, 548 (7666): 158; Zachary Baynham-Herd. 2017. 'Enlist blockchain to boost conservation', *Nature*, 548 (7669): 523; Selena Ahmed and Noah ten Broek. 2017. 'Blockchain could boost food security', *Nature*, 550 (7674): 43.

138 Oliver M. Dickerson. 1951. *The Navigation Acts and the American Revolution*. Philadelphia: University of Pennsylvania Press.

139 «Мой сын никогда не жил и не работал на территории США» Депутат Госдумы Валерий Селезнёв ('My son never lived or worked in the territory of the USA', Deputy of the State Valerij Seleznëv'), *Известия*, 8 июля 2014.

140 Ministry of Foreign Affairs of the Russian Federation. 2014. Комментарий МИД России в связи с задержанием на Мальдивах и насильственным вывозом в США гражданина России 1657-08-07-2014 (8 июля 2014 года) ⟨http://archive.mid.ru//brp_4.nsf/newsline/8ECA5B1B8B21D43A44257D0F002DB77E⟩.

141 Natasha Bertrand. 2015. 'Notorious Russian hacker was nabbed in the Maldives and extradited over 8,800 miles', *UK Business Insider*, 11 March 2015 ⟨http://uk.businessinsider.com/notorious-russian-hacker-kidnapped-by-us-was-nabbed-in-the-maldives-2015-3?r=US&IR=T⟩.

142 David H. Small. 1987. 'Managing extraterritoriality jurisdiction problems: The United States government approach', *Law and Contemporary Problems*, 50 (3): 285–302.

143 Austen L. Parrish. 2009. 'Reclaiming international law

Washington alerted investors that not just sovereign nation states but individual states within the United States have begun to follow suit and move towards extraterritorial taxation.[144]

In 2009, the counselor for legal affairs at the Swiss embassy in Washington, Kurt Hoechner, expressed the hope that conflicts of jurisdiction would be resolved by cooperative efforts and not by unilateral action,[145] but this hope would prove to be in vain. Lawfare, or the extraterritorial application of one's own laws as a weapon of war, has been practised by the United States against many other nations. In April 2012, the head of the Union Bank of Switzerland, Sergio Ermotti, asserted that the United States had been waging a full-fledged economic war against Switzerland since 2008,[146] and at the same time the United States pursued the fiscal persecution of American citizens living abroad.[147]

In 2012, Wegelin, the oldest bank in Switzerland, established in 1741, was destroyed by the unilateral imposition of United States jurisdiction in Switzerland. Under a federal president in Bern, who was widely believed to be either inept or complicit, Swiss laws were effectively rendered subordinate to United States law within Switzerland, and Wegelin director, Konrad Hummler, became a refugee confined within his own country. Bankers abiding studiously by the laws of the land in which they resided and worked were persecuted from afar by a state roguishly imposing its laws from afar upon other sovereign countries. The injustice and mistreatment suffered by professionals at the hands of the American government through the extraterritorial imposition of its own laws are continually being documented.[148] The unstated goal of America's economic war was to undermine Switzerland as a financial power and to drive untaxed money out of Swiss banks into American, British and Dutch jurisdictions.

The United States harbours and exploits permissive fiscal regimes in Delaware, Montana, Nevada, Wyoming, South Dakota, Puerto Rico, the American Virgin Islands and the former United States trust territory of the Marshall Islands. Britain harbours numerous havens for tax evaders in Guernsey, Jersey, the Isle of Man, Gibraltar and in British overseas territories such as Bermuda, the Turks and Caicos Islands, the British Virgin Islands, Anguilla, the Cayman Islands, Montserrat, Niue and the Cook Islands, with an extended web of tax havens spreading across other sometimes remote corners of the former empire.[149] The Netherlands maintains havens for well-connected tax evaders in the Netherlands Antilles. In such tax jurisdictions, money can, moreover, be effectively hidden away behind Anglo-American legal instruments known as trusts.[150]

from extraterritoriality', *Minnesota Law Review*, 93: 815–874.

144 'Alarming trend: U.S. states moving toward extraterritorial taxation' ⟨http://www.ofii.org/sites/default/files/docs/ExtraterritorialStateTaxTrends.pdf⟩, accessed December 2014.

145 Kurt M. Hoechner. 1987 'A Swiss perspective on conflicts of jurisdiction', *Law and Contemporary Problems*, 50 (3): 271–282.

146 'Die Schweiz steckt mitten in einem Wirtschaftskrieg', *SonntagsZeitung*, 22. April 2012; cf. 'zu 11.027 Zusatzbericht zur Botschaft vom 6. April 2011 zur Ergänzung der am 18. Juni 2010 von der Schweizerischen Bundesversammlung genehmigten Doppelbesteuerungsabkommen betreffend das Doppelbesteuerungsabkommen mit den Vereinigten Staaten von Amerika, vom 8. August 2011', *Bundesblatt Nr. 37 vom 13. September 2011*, S. 6663–6666.

147 Natalie Peter. 2009. 'Deklarationspflicht gegenüber dem Internal Revenue Service: Doppelbürger sind in den USA steuerpflichtig', *Neue Zürcher Zeitung*, 14. Juli 2009 ⟨http://www.nzz.ch/doppelbuerger-sind-in-den-usa-steuerpflichtig-1.3032534⟩; 2012. 'Kalter Wind aus Übersee', *Neue Zürcher Zeitung*, 6. Februar 2012.

148 Sébastien Ruche. 2017. 'Un banquier zurichois: « J'ai été menotté et incarcéré à mon arrivée à New York »', *Le Temps*, mercredi 13 décembre 2017.

149 Antigua and Barbuda, the Bahamas, Bahrein, Belize, Cyprus, Dominica, Grenada, Malta, Mauritius, Nauru, Saint Vincent and the Grenadines, the Seychelles, Saint Lucia, Saint Kitts and Nevis, Vanuatu, Niue and the Cook Islands.

150 Myret Zaki. 2010. *Le Secret bancaire est mort, vive l'évasion fiscale*. Paris: Favre; 2013. 'Die CIA und der betrunkene Schweizer Banker: US-Agent Edward Snow-

In 2010, a cunning piece of legislation was devised called the Foreign Account Tax Compliance Act (FATCA), which was signed into law on the 18th of March 2010. The law sought to enforce American tax laws in all their Byzantine complexity extraterritorially and to tax all American citizens, United States dual nationals, United States green card holders and other 'U.S. persons' no matter where they lived. In 1773, lord North was content to impose a tax of just a threepence on a pound of tea, whereas the Nobel peace prize winning warmonger Barack Obama used this new legislation fiscally to impose an unjust regime of extraterritorial double taxation upon American citizens, dual nationals, green card holders and U.S. persons living outside of the United States, subjecting them, moreover, to reams of onerous paperwork.[151]

As the previously unenforced policy of extraterritorial taxation was pursued, the United States of America and Eritrea turned out to be the only two countries that sought to tax their citizens residing abroad. Tellingly, the American Department of State publicly condemned what the United States ambassador to the United Nations, Susan Elizabeth Rice, labelled the Eritrean 'diaspora tax',[152] and the United States spearheaded United Nations resolution 2023 (2011), passed on the 5th of December 2011 at the 6674th meeting of the Security Council, forbidding the extraterritorial taxation practised by Eritrea,[153] which was described as 'illegal tax extortion'.[154] Extortion fosters disloyalty, all the more so when this iniquity is accompanied

den berichtet über Undercover-Aktionen gegen Schweizer Banken. Muss der Fall Birkenfeld neu geschrieben werden?', *finews.ch*, 10. Juni 2013 ⟨http://www.finews.ch/news/finanzplatz/12195-cia-schweizer-banken-edward-snowden-2⟩; Matthieu Hoffstetter. 2015. '30 % des banques privées suisses pourraient disparaître d'ici 2018', *Bilan*, 26 août 2015.

151 'U.S. persons abroad—members of a unique tax, form and penalty club', 28 March 2014 ⟨https://renounceuscitizenship.wordpress.com/2014/03/28/cook-v-tait-14-its-not-citizenship-based-taxation-its-extraterritorial-taxation/⟩; Montano Cabezas. 2016. 'Reasons for citizenship-based taxation?', *Penn State Law Review*, 121 (1): 101–142. Emblematically, two parasites were named after the 44th president of the United States, the asexually reproducing nematomorph *Paragordius obamai*, native to the Lake Victoria basin, and the blood fluke *Baracktrema obamai*, found to infest the lungs of the black marsh turtle *Siebenrockiella crassicollis* and the Southeast Asian box turtle *Cuora amboinensis* in the Malaysian states of Perak, Perlis and Selangor. The metaphor of duplicitous opportunism evoked by these species christenings prompted Melissa Chan to jubilate in *Time* magazine on the 8th of September 2016: 'President Barack Obama is a parasite, according to scientists … President Barack Obama is a parasite, officially' (Ben Hanelt, Matthew G. Bolek and Aandreas Schmidt-Rhaesa. 2012. 'Going solo: Discovery of the first parthenogenetic gordiid (Nematomorpha: Gordiida)', *Public Library of Science One*, 7 (4): e34472 doi: 10.1371/journal.pone.0034472; Jackson R. Roberts, Thomas R. Platt, Raphael Orélis-Ribeiro and Stephen A. Bullard. 2016. 'New genus of blood fluke (Digenea: Schistosomatoidea) from Malaysian freshwater turtles (Geoemydidae) and its phylogenetic position within Schistosomatoidea', *Journal of Parasitology*, 102 (4): 451–462; ⟨http://time.com/4484828/barack-obama-parasite/⟩).

152 'Adoption of UN Security Council Resolution 2023 on Eritrea, Susan E. Rice, U.S. Permanent Representative to the United Nations, U.S. Mission to the United Nations, Security Council Stakeout, New York City', *U.S. Department of State*, 5 December 2011 ⟨http://www.state.gov/p/io/rm/2011/178318.htm⟩.

153 Security Council. 2011. 'Security Council, by vote of 13 in favour, adopts resolution reinforcing sanctions regime against Eritrea 'calibrated' to halt all activities destabilizing region', *United Nations Meetings Coverage and Press Releases*, 5 December 2011 ⟨http://www.un.org/press/en/2011/sc10471.doc.htm⟩.

154 Martin Plaut. 2014. 'Eritrea: how the London embassy forces Eritreans to pay the illegal 2% tax—full report', *martinplaut, Journalist specialising in the Horn of Africa, Sudan and Southern Africa*, 16 February 2014 ⟨https://martinplaut.wordpress.com/2014/02/16/eritrea-how-the-london-embassy-forces-eritreans-to-pay-the-illegal-2-tax-full-report/⟩. Canada, Norway and the Netherlands have expelled Eritrean diplomats in retaliation for the Eritrean embassy's attempts to enforce the diaspora tax levied on Eritrean citizens residing in these countries. Professor Mirjam van Reisen at the University of Tilburg qualified the practice as 'not a tax, but an extortion'. However, Canada, Norway and the Netherlands apply a double standard by inconsistently neglecting to expel American diplomats in retaliation for the diaspora tax inflicted by the United States against American citizens and other 'United States

by humiliation, whether this be at the hands of Spanish troops enforcing Habsburg fiscal policies in the Low Countries or in the form of burdensome paperwork devised and imposed by an unaccountable and intransigent bureaucracy in Washington.[155]

At the same time, the internet and big data enabled the Commissioner of Internal Revenue, Douglas H. Shulman (*obtinebat* 2008–2012), to enforce the American diaspora tax as well as newly to enforce the annual filing of a Report of Foreign Bank and Financial Accounts (FBAR). American citizens residing abroad suddenly discovered that they were liable to lose 300 % of everything that they owned, or had ever owned, for failure to comply with the FBAR reporting regime, about which most of the 6.25 million Americans and dual nationals residing abroad had never heard.[156]

At the same time, these expatriate Americans generally already paid wealth and income taxes in the jurisdictions where they resided. The Internal Revenue Service twice introduced an 'Offshore Voluntary Disclosure Program' in 2009 and in 2011. Using what became known as the 'Bait and Switch' tactic,[157] the agency would coax American citizens living abroad into enrolling into these programmes and then change the rules after they had committed themselves by making disclosures.

In practice, the Internal Revenue Service as well as most tax authorities in other nations of the world for all intents and purposes operate above the law from the vantage point of the common man, for few have the time or the means to combat the mistakes and the arbitrary, unjust and often capricious bureaucratic decisions taken by tax authorities.[158] In view of unjust policies and abusive practices, the American economist Richard William Rahn qualified the Internal Revenue Service as 'the ultimate parasites' which, in Rahn's words, 'contaminate government' and 'bully the hardworking and creative'.[159]

No doubt many of the functionaries in this agency are mere bureaucrats with a mind set that befits their chosen *métier*. However, the ultimate responsibility for the betrayal of the founding principles of the American nation rests on the

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persons' residing in these countries (Antoine Harari. 2018. 'Erythréens taxés par leur ambassade: la Suisse fait la sourde oreille', *Le Temps*, 4 février 2018).

155 The Dutch national anthem, the world's oldest, was composed in 1572 by Filips van Marnix, lord of Sint Aldegonde and of West Souburg (Brussels 1540–1598 Leiden). The lyrics stress loyalty to the fatherland and to a supreme being, and in the sixth stanza the loyal service to a righteous God compels the anthem singer to fight in order to *Die Tyranny verdrijven, Die my mijn hert doorwondt* 'drive out the tyranny that aggrieves my heart'. In both the first and the fifteenth stanza, the conceit is maintained that no disrespect was ever shown to the Habsburg king in Spain by casting off the tyranny of extraterritorial taxation. Notwithstanding the contritely professed deference to the monarch, the effective disloyalty towards the sovereign provoked by taxation from afar led at once to the independence of the northern Netherlands, which formed the Dutch republic, and unleashed the Eighty Years' War, whilst the southern Netherlands remained under Habsburg rule and were governed from Spain even after the Peace of Münster in 1648.

156 After the FBAR filing required was instituted, it lay dormant and unenforced for over thirty years except in targeted cases to proceed against drug traffickers and organised criminals. After the destruction of the World Trade Center buildings in New York in September 2001, Congress broadened the Bank Secrecy Act under the Patriot Act 'to expressly state that the FBAR is vital to the U.S. government not only in carrying out criminal and tax investigations, but also in conducting intelligence activities to protect against international terrorism'. (Hale E. Sheppard. 2006. 'Evolution of the FBAR: Where we were, where we are, and why it matters', *Houston Business and Tax Journal*, VII: 1–41; American Citizens Abroad. 2011. 'The FBAR SCAM', 9 pp., 16 September 2011).

157 The term 'Bait and Switch' was coined by Jack L. Townsend, attorney at law in Tampa, Florida, 2011. 'Taxpayer advocate criticizes IRS implementation of OVDP on Bait and Switch (6/30/11)', *Federal Tax Crimes*, 30 June 2011 ⟨http://federaltaxcrimes.blogspot.ch/2011/06/taxpayer-advocate-criticizes-irs.html⟩.

158 Katharina Bracher. 2012. 'US-Doppelbürger werden bei Ausbürgerung schikaniert', *Neue Zürcher Zeitung*, 15. April 2012.

159 Richard William Rahn. 2011. 'IRS parasites contaminate government', 26 June 2013 ⟨http://www.newsmax.com/Rahn/IRS-Government-economy-Ecuador/2013/06/26/id/511988/⟩.

shoulders of those who formulated policy and drafted unjust legislation. Under the Obama presidency, the organisation American Citizens Abroad, based in Geneva, suddenly found that its principal activity had become fighting and lobbying against the sudden predatory enforcement of American extraterritorial taxation.[160] At the same time, the United States government coerced foreign banks and governments to comply with the Foreign Account Tax Compliance Act (FATCA). As a result, foreign banks and financial institutions were compelled to run costly programmes to check after clients who happened to be American citizens, dual nationals or other categories of people designated by the United States government as being 'U.S. persons'.

The cost to banks and private financial institutions outside of the United States of enforcing a domestic piece of American legislation so that American tax collectors could levy their threepence from all Americans residing abroad proved prohibitive. Americans living in Switzerland, for example, were refused banking and credit card services by many Swiss financial institutions, who would rather forego the costly liability of having U.S. persons as clients.[161] To date merely token headway has thus far been made in state tax disputes involving claims that a state cannot tax beyond its geographical boundaries.[162]

Scrambling for the Exits as a Re-enactment of the Boston Tea Party

The indignity of paying an extraterritorially imposed and therefore unjust tax of a threepence on a pound of tea inspired British subjects in the Thirteen Colonies to rebel against their own motherland. The unjust and rapacious taxation practices imposed upon American citizens, dual nationals and 'U.S. persons' permanently residing abroad provided ample justification for many to relinquish United States citizenship.[163] American schoolchildren are taught that 'when a long trail

160 'American Citizens Abroad's recommendation for U.S. tax law reform', *Tax Notes International*, 30 April 2012, pp. 459–464; Anne Hornung-Soukup, Finance Director of American Citizens Abroad, personal communication, May 2012.

161 Lynnley Browning. 2013. 'Complying with U.S. tax evasion law is vexing foreign banks', *The New York Times*, 16 September 2013; Ermes Gallarotti. 2013. 'Doppelbürger werden für Banken zum Risiko: Schweizer Banken tun sich schwer mit schweizerisch-amerikanischen Doppelbürgern. Seit dem Ausbruch des Steuerstreits mit den USA haftet ihnen ein toxischer Geruch an', *Neue Zürcher Zeitung*, 24. September 2013.

162 Vladimir Yaduta. 2014. 'Owen Pell on the shrinking scope of extraterritoriality in US law', *Russian Legal Information Agency*, 26 March 2014 ⟨http://rapsinews.com/legislation_publication/20140326/270958693.html⟩; Jasper Cummings. 2016 'Federal tax advisory: extraterritorial taxation: Rev. Rul. 2016–03', *JD Supra Business Advisor*, 2 February 2016 ⟨http://www.jdsupra.com/legalnews/federal-tax-advisory-extraterritorial-85171/⟩.

163 'Wegen Steuern: US-Bürger geben Pass ab: US-Bürger müssen ihrem Heimatland Steuern bezahlen, selbst wenn sie im Ausland wohnen—jetzt haben immer mehr Amerikaner genug', *finews.ch*, 19. August 2009 ⟨http://www.finews.ch/news/finanzplatz/1640-spaetlese-des-steuerstreits-amerikaner-verzichten-auf-staatsbuergerschaft⟩; 'More (wealthy) Americans are renouncing citizenship', *Economix—The New York Times*, 16 June 2011 ⟨http://economix.blogs.nytimes.com/2011/06/16/more-americans-are-renouncing-citizenship/⟩; David Barrett. 2013. 'Americans renouncing citizenship to become British thanks to tax rise', *The Telegraph*, 2 March 2013 ⟨http://www.telegraph.co.uk/expat/9904314/Americans-renouncing-citizenship-to-become-British-thanks-to-tax-rise.html⟩; Tyler Durden. 2013. 'Americans Renouncing Citizenship Surge 66%', *Zero Hedge*, 8 August 2013 ⟨http://www.zerohedge.com/news/2013-08-08/americans-renouncing-citizenship-surge-66⟩; 'Americans giving up passports jump sixfold as tougher rules loom', *Bloomberg Business*, 9 August 2013 ⟨http://www.businessweek.com/news/2013-08-09/americans-giving-up-passports-jump-sixfold-as-tougher-rules-loom⟩; 'New tax law driving expats to renounce U.S. citizenship', *McClatchy DC*, 26 November 2013 ⟨http://www.mcclatchydc.com/news/politics-government/congress/article24759595.html⟩, accessed November 2013; Patrick Cain. 2014. 'More than 3,100 Americans renounced citizenship last year: FBI', *Global News*, 10 January 2014 ⟨http://globalnews.ca/news/1072303/over-3100-americans-renounced-citizenship-last-year-fbi/⟩, accessed January 2014; Jonathan Tepper. 2014. 'Why I'm giving up my passport', *The New York Times*, 8 December 2014, page A27.

of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government'.[164] Therefore, the renunciation of United States citizenship by Americans living abroad in recent years has, historically speaking, been the most quintessentially American of acts which they could have performed under the prevailing circumstances.

However, not all expatriates renounced citizenship in order to escape unconstitutional extraterritorial taxation. For many it would be reason enough to renounce citizenship just to be able to escape harassment in the form of the onerous paperwork to which U.S. persons permanently residing outside the Unites States have come to be subjected as a consequence of the United States government's attempt globally to enforce its diaspora tax regime.[165] No doubt some former United States citizens had yet other reasons to renounce.[166] Yet at this time in the history of the United States, many cases of the renunciation of American citizenship may no doubt be construed as being about freedom from oppression, each representing an individual re-enactment of the Boston Tea Party in the spirit of the original Sons of Liberty, and often such an act is not without its price.

On the 8th of December 1931, the government of the German Reich imposed a **Reichsfluchtsteuer** 'tax on fleeing the *Reich*', which initially entailed the confiscation of 25% of the total net worth of the emigrant.[167] At first, the law applied to anyone with assets above 200,000 Reichsmarks or an annual salary above 20,000 Reichsmarks. Subsequent ordinances rendered the emigration tax harsher, and from September 1934 an emigrant lacking special permission was not allowed to leave the country with more than 10 Reichsmarks. One month after Adolf Hitler annexed Austria, this exit tax was also imposed on any person seeking to emigrate from Austria after the 14th of April 1938.[168] The emigration tax for those fleeing the Third Reich was zealously enforced by successive governments under the National Socialist German Worker's Party until Germany lost the war in 1945.

With this 'illustrious' precedent to emulate, in 1966 the United States enacted a new Internal Revenue Code containing a section, authorising the taxation of a former United States citizen for up to ten years after the loss of citizenship if the person in question could be demonstrated to have left the United States to avoid taxation.[169] Thirty years later, the tone became yet harsher in an amendment which specified that any former citizen of the United States 'who is determined by the Attorney General to have renounced United States citizenship for the purpose of avoiding taxation by the United States is excludable' from visiting the United States ever again.[170] That same year, the

164 'Declaration of Independence, in Congress, July 4, 1776', pp. 949–953 in Bailyn (op.cit.).

165 Ludwig von Mises warned against governments that transform 'taxation into confiscation and expropriation', and he observed: 'What people resent is not bureaucratism as such, but the intrusion of bureaucracy into all spheres of human life and activity. The struggle against the encroachments of bureaucracy is essentially a revolt against totalitarian dictatorship' (Ludwig Heinrich Edler von Mises. 1944. *Bureaucracy*. New Haven, Connecticut: Yale University Press, p. 18).

166 Senate Select Committee, approved 13 December 2012, declassified 3 December 2014. *Committee Study of the Central Intelligence Agency's Detention and Interrogation Program*, forwarded by Senate Select Committee on Intelligence Chairman Dianne Feinstein [6 + 19 + 499 = 524 pages].

167 Reichsgesetzblatt, Teil I, Nr. 79, Ausgegeben zu Berlin, den 9. Dezember 1931, Vierte Verordnung des Reichspräsidenten zur Sicherung von Wirtschaft und Finanzen und zum Schutz des inneren Friedens. Vom 8. Dezember 1931, Siebenter Teil: Sicherung der Haushalte, Kapitel III: Reichsfluchtsteuer und sonstige Maßnahmen gegen Kapital- und Steurflucht (pp. 731–737).

168 Reichsgesetzblatt, Teil I, Nr. 60, Ausgegeben zu Berlin, den 23. April 1938, Verordnung zur Durchführung der Reichsfluchtsteuer im Land Österreich, Vom 14. April 1938 (p. 403).

169 U.S. Code, Title 26 Internal Revenue Code, § 877, Expatriation to avoid tax.

170 Public Law 104–208, passed by the 104th Congress on the 30th of September 1996, Section 352, Exclusion of former citizens who renounced citizenship.

Reed amendment in the law on 'Aliens and Nationality' affirmed that such former citizens are 'inadmissible' to the United States.[171]

In 2004, Section 877 of the Internal Revenue Code was amended so that the intervention of the Attorney General was in some cases no longer required. People with a net worth greater than two million dollars would automatically be construed to have left the United States solely for the purpose of avoiding American taxation. In the wake of Eduardo Luiz Saverin's expatriation in 2009, New York Senator Charles Ellis 'Chuck' Schumer and Pennsylvania senator Robert Patrick 'Bob' Casey Jr. in 2012 argued for a more vindictive form of the American *Reichsfluchtsteuer*.[172] In order to punish the renunciation of American citizenship, Schumer proposed the Expatriation Prevention by Abolishing Tax-Related Incentives for Offshore Tenancy Act (Ex-PATRIOT Act). With lawmakers so eager to follow the example set by the German Reich in the 1930s, the Californian lawyer Phil Hodgen at the time qualified the United States as 'a financial jail'.[173]

With the internet and America's worldwide web of extradition treaties, the United States is capable of being far fiercer in imposing its own *Reichsfluchtsteuer* than the German government ever could have been. High-profile expatriations such as those of Saverin in 2009, the philanthropist Denise Eisenberg Rich in November 2011,[174] Tina Turner in 2013[175] and London mayor Boris Johnson[176] rendered visible a large wave of underreported expatriations by American dual nationals who had been made to feel like fugitives in face of the predatory tactics implemented extraterritorially outside of the United States by an agency inappropriately labelled the 'Internal' Revenue Service.

Moreover, it would be farcical to contend that 'U.S. persons' residing outside of the United States are in any way meaningfully represented in American legislatures. With the threats of barring expatriates from entry into the United States, the legislation in place preemptively squelches dissent and suppresses the freedom of speech of those adversely affected by the unusual and unjust United States tax laws. For example, when Tina Turner's spokesperson was questioned by Swiss journalists, predictably a formal denial was issued that the renunciation of her American citizenship had anything to do with United States extraterritorial taxation.

More candour is evinced in the following account, which appeared in a Swiss newspaper in 2013, recounted by a man about his experience at the American Embassy in Bern, where he went to renounce his American citizenship:

> John H., un homme d'affaires affable de 60 ans, a renoncé, il y a un an, à son passeport américain: « C'était le 13 février 2012 à l'ambassade US à Berne, par un jour très froid. L'employé m'a

171 U.S. Code, Title 8, § 1182, Inadmissible aliens, (a) Classes of aliens ineligible for visas or admission, (10) Miscellaneous, (E) Former citizens who renounced citizenship to avoid taxation.

172 Joseph Henchman. 2012. 'Outraged by Facebook expatriate, Sens. Schumer and Casey propose steep "Exit Tax"', *Tax Foundation*, 18 May 2012 ⟨http://taxfoundation.org/blog/outraged-facebook-expatriate-sens-schumer-and-casey-propose-steep-exit-tax⟩.

173 Phil Hodgen. 2012. 'Why people expatriate', *Hodgen Law*, 5 June 2012, 20 pp. ⟨http://hodgen.com/why-people-expatriate/⟩.

174 Siobhan Hughes. 2012. 'Denise Rich gives up U.S. citizenship', *Wall Street Journal*, 9 July 2012 ⟨http://blogs.wsj.com/washwire/2012/07/09/denise-rich-gives-up-u-s-citizenship/⟩.

175 Al Kamen. 2013. 'Tina Turner formally "relinquishes" U.S. citizenship', *Washington Post*, 12 November 2013 ⟨https://www.washingtonpost.com/blogs/in-the-loop/wp/2013/11/12/tina-turner-formally-relinquishes-u-s-citizenship/⟩; 'Tina Turner gibt ihren US-Pass ab: What's citizenship got to do with it?', *Neue Zürcher Zeitung*, 14. November 2013 ⟨http://www.nzz.ch/panorama/tina-turner-gibt-ihren-us-pass-ab-1.18185335⟩.

176 David A. Graham. 2015. 'London Mayor Boris Johnson hates the IRS, too: The dual citizen says he's renouncing his birthright after getting a fat tax bill from Uncle Sam', *The Atlantic*, 17 February 2015 ⟨http://www.theatlantic.com/international/archive/2015/02/boris-Johnson-renounces-us-citizenship-tax-bill-mayor-london/385554/⟩.

> demandé si quelqu'un me forçait à faire cela. J'ai répondu: « Oui, le gouvernement américain » ».
>
> John H., a friendly 60-year-old businessman, renounced his American passport one year ago: 'It was on the 13th of February 2012 at the U.S. Embassy in Bern, on a very cold day. The employee asked me whether anyone had forced me to do what I was doing. I answered: "Yes, the American government"'.

Fiscal policies and United States tax laws are so non-competitive that, even with the heavy losses inflicted by the American exit tax, Laura Saunders wrote in the *Wall Street Journal* in 2012 that for some 'the best tax strategy is simply to pack up and leave'.[177] Under Obama and Shulman, for many people living outside of the United States, the privileges of United States citizenship were transformed into shackles to be cast off, often at great expense. As lord Camden argued in 1768, expatriates 'looked for protection, and not chains, from their mother country: by her they expected to be defended in the poffeffion of their property, and not to be deprived of it'.

Whereas most people in the world are free to relinquish their nationality easily, Americans living outside of the United States must go through an arduous and expensive bureaucratic and legal procedure in order to renounce United States citizenship. In 2014, the fee for renunciation was raised from $450 to $2,350.[178] This does not include the inordinately steep lawyer's and tax consultant fees incurred by those who live outside of the United States in complying with American extraterritorial tax laws. Many dual nationals permanently residing abroad never even knew that, in addition to their normal wealth and income tax forms, they were also expected to file a second set of tax forms annually, faraway in the United States. Expatriation is not permitted until reams of tax forms and FBAR forms have been completed and submitted for each of the five years preceding the formal act of renouncing citizenship.[179]

In addition, exclusively for American citizens residing outside of the United States or seeking to renounce citizenship, additional unjust discriminatory taxes are applied, especially on inheritance.[180] Additional thick reams of forms, all written in unintelligible pseudo-English, are provided for yet another final tax form upon renunciation. The forms contain a caveat stating that the renunciation of United States citizenship does not necessarily absolve a person from any extraterritorial tax obligations. In other words, there is no real guarantee that a person who renounces United States citizenship can ever escape the injustices of the Internal Revenue Service in the end.

177 Laura Saunders. 2012. 'Should you renounce your U.S. citizenship?', *Wall Street Journal*, 18 May 2012 ⟨http://www.wsj.com/articles/SB10001424052702303879604577410021186373802⟩.

178 Robert W. Wood. 2015. 'U.S. has world's highest fee to renounce citizenship', *Forbes*, 23 October 2015 ⟨http://www.forbes.com/sites/robertwood/2015/10/23/u-s-has-worlds-highest-fee-to-renounce-citizenship/#2cdb8dbc6568⟩.

179 After 2012, the Internal Revenue Service introduced the so-called Streamlined Filing Compliance Procedures, which reduced the period of onerous paperwork and detailed financial reporting from five to three years, over which expatriates would be subjected to extraterritorial double taxation as well as penalties and punitively complicated procedures for filing their 'delinquent' tax returns in order to be able to renounce U.S. citizenship. In addition, expatriates are compelled to submit to the United States all the annual Reports of Foreign Bank and Financial Accounts and certify that their not having filed such FBAR forms, which virtually nobody had previously ever heard about, 'was due to non-willful conduct'.

180 Ted Baumann. 2015. 'What it really costs to expatriate', *The Sovereign Investor*, 19 February 2015 ⟨http://thesovereigninvestor.com/asset-protection/what-it-really-costs-to-expatriate/⟩; Russell Newlove. 2016. 'Why expat Americans are giving up their passports', *BBC News, Business*, 9 February 2016 ⟨http://www.bbc.com/news/35383435⟩.

The Surveillance State and the Tea Party

Under the reign of Charles II, writs of assistance were instituted to combat the illicit tea trade. These search warrants were issued by the court of the exchequer and authorised government officials to search cellars, vaults, private homes, ships and warehouses in an unbridled fashion at any time of day or night. Writs of assistance remained valid until six months after the death of the sovereign. Under king William III, a statute rendered these instruments available to customs houses in the British colonies as well, where they could be issued by superior courts.

Under the reign of George II (*regnabat* 1727–1760), in June 1755, chief justice Stephen Sewall in the province of Massachusetts Bay issued the first writ of assistance to Charles Paxton, surveyor of the customs at Boston. Paxton's officers subsequently entered premisses in an unbridled fashion, invaded the privacy of individuals, paid informants to garner secret information and confiscated molasses and tea. After the death of king George II in 1760, his grandson George III acceded to the throne, and new writs of assistance were required after six months. On the 27th of January 1761, Thomas Hutchinson was appointed chief justice of the superior court at Middlesex, and, in February 1761, Hutchinson issued new writs of assistance to Charles Paxton at the Old Town House in Boston.

During the issuance proceedings, the attorney general Jeremiah Gridley argued that the writs were justified by necessity, namely the 'benefit of revenue', notwithstanding the fact that the 'common privileges of Englishmen are taken away in the case'. James Otis famously defended the British merchants and traders at Boston, arguing in vain against the issuance of the writs, and then resigned his post of advocate general in protest.[181] John Adams, who would later be the first ambassador of the United States to the United Provinces as well as the first vice-president and second president of the United States, attended the issuance proceedings of the writs of assistance in February 1761 at Boston. Later his grandson, Charles Francis Adams, recorded that these proceedings and the fiery plea by James Otis were considered by his grandfather 'as the spark in which originated the American Revolution'.[182]

The illicit trade in Dutch tea in the Thirteen Colonies ignited the American war of secession, and the invasion of privacy and the violation of human rights motivated by the unbridled search to find smuggled Dutch tea would later provide the direct inspiration for the fourth amendment proposed by the American congress in 1789 and formally adopted with the other nine amendments contained in the Bill of Rights on the 1st of March 1792.

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall iſsue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Today, however, testimony of employees of the United States Treasury Department suggests that modern-day writs of assistance are, as it were, surreptitiously in force. Government officials have testified that the Office of Intelligence and Analysis of the Treasury Department invasively snoops on the private financial records of United States citizens, aided and abetted by the National Security Agency. Publicly, however, both government agencies have issued statements of denial about their deliberate and systematic violation of civil liberties and the constitutional rights of citizens.[183]

181 George Elliott Howard. 1905. *The American Nation: A History, Volume 8 Preliminaries of the Revolution, 1763–1775*. New York: Harper & Brothers Publishers (pp. 73–86).

182 Charles Francis Adams. 1856. *The Life of John Adams, Second President of the United States: With Notes and Illustrations*. Boston: Little, Brown and Company (p. 57).

183 Jason Leopold and Jessica Garrison. 2017. 'U.S. intelli-

Just as governments have sought to invade and eradicate personal privacy and so render the individual citizen ever more transparent, the authorities of the state have at the same time rendered the workings of government more opaque and shielded their doings from the scrutiny of the populace whom they govern. As modern governments increasingly pry into the private lives of the governed, the real power brokers behind the state guard their activities from the public eye whilst concealing their identities. In 1867, Walter Bagehot wrote about what he called the 'double government' in Britain,[184] by which constitutional royalty functioned to act 'as a *disguise*', enabling 'our real rulers to change without heedless people knowing it'.[185] Government in Great Britain has evolved much beyond the state in which it was once described by Bagehot.

In the American context, Edward Corwin, former advisor to president Roosevelt, warned in 1946 that the Second World War had drastically transformed the powers of the executive branch of government far beyond the arrangements outlined in the constitution.[186] Michael Glennon, professor of international law at Tufts University, has elucidated how Bagehot's insights pertain in America even more so to a deeper and more insidiously pervasive level of government. The National Security Agency, established in 1952 by a top secret executive order from President Harry Truman, and associated secret agencies strive in the public eye to 'draw little overt attention but wield immense, unnoticed power', yet this secret government within the government, in Glennon's assessment, today runs the United States, is impervious to the vicissitudes of the electoral process, maintains its anonymity and conducts many of its activities outside of the rule of law.[187]

Glennon's claims imply that every American election since 1963 has been a sham, whereby the performances of the vying candidates provide entertainment and enhance the quality of the distraction. These mock electoral battles help perpetuate the concealment of the actual government. It is in the nature of governments that they can fool most of the people most of the time, and consequently the show is destined to go on. As for dissenters, a person does not necessarily pose a threat to the powers that be just because he happens to have the perspicacity not to fall for the fiction, as long as he does not challenge the system in any way that could prove to be effective. Each new political figurehead will be compelled to lie in just as systemic and bare-faced a manner as his predecessors. International security therefore remains just as precarious after the first Tuesday after the first Monday in November in an American election year, and undeclared wars continue to be waged unabated.

Hollywood has in recent years generated an economic output estimated at between $916 billion and $504 billion dollars annually, an astonishing volume of economic activity driven solely by an industry based on the wilful suspension of disbelief. There is something more sinister, however, about running an entire country upon this principle.[188] With respect to taxation and the abuse of power by government, Thomas Paine was justified in February 1776 in his otherwise rather pompous claim that at the time 'The caufe of America is in a great meafure the caufe of all mankind'. Paine's now quaintly antique ruminations on hereditary monarchy have now to be funda-

gence unit accused of illegally spying on Americans' financial records', *BuzzFeed News*, 6 and 7 October 2017.

184 Walter Bagehot. 1873. *The English Constitution (New and Revised Edition)*. Boston: Little, Brown and Company (p. 351).

185 Walter Bagehot. 1867. *The English Constitution*. London: Chapman and Hall (p. 80).

186 Edward Samuel Corwin. 1947. *Total War and the Constitution: Five Lectures delivered on the William W. Cook Foundation at the University of Michigan, March 1946*. New York: Alfred A. Knopf.

187 Michael J. Glennon. 2014. 'National security and double government', *Harvard National Security Journal*, 5: 1–114.

188 'Hollywood, creative industries add $504 billion to U.S. GDP', *Hollywood Reporter*, 12 May 2013; 'Hollywood has blockbuster impact on US economy that tourism fails to match', *The Guardian*, 5 December 2013.

mentally rethought in light of the modern realities described by Bagehot and Glennon.

In 1958, Aldous Huxley believed that many governments had already begun to effectuate totalitarianism through memetic management.

> Under the relentless thrust of over-population and increasing over-organisation, and by means of ever more effective methods of mind-manipulation, the democracies will change their nature; the quaint old forms—elections, parliaments, Supreme Courts and all the rest—will remain. The underlying substance will be a new kind of non-violent totalitarianism. All the traditional names, all the hallowed slogans will remain exactly what they were in the good old days. Democracy and freedom will be the theme of every broadcast and editorial—but democracy and freedom in a strictly Pickwickian sense. Meanwhile the ruling oligarchy and its highly trained elite of soldiers, policemen, thought-manufacturers and mind-manipulators will quietly run the show as they see fit.[189]

The internet and big data offer new hope and have also provided the global economy with an instrument of 'creative destruction' in Schumpeter's sense. At the same time, the internet has furnished a powerful tool to those who work towards effectuating a form of totalitarianism thinly veiled.

In an allusion to Aldous Huxley's 1941 biographical study of François Leclerc du Tremblay, the Capuchin friar in a grey robe who, as *l'éminence grise*, influenced and manipulated cardinal Armand Jean du Plessis de Richelieu, Luciano Floridi asserts that the new grey power, like traditional grey power, revolves around the control of information. However, Floridi forewarns that the new grey power has moved even further behind the scenes:

> ... we need to understand better the nature and likely development of the new grey power that is emerging as a form of control over uncertainty. The new grey power is clearly more akin to the old ecclesiocratic power than to the grey power of mass-media, which it is actually cannibalising.[190]

Floridi cautions us against considering the new grey power to be an instance of business as usual, a 'narrative quietly promoted by the new grey power itself', and he also urges us to reflect on what can be done to ensure that the new grey power is exercised in a benign way.

In 1949, Eric Arthur Blair, alias George Orwell, predicted that governmental infringements upon privacy and personal freedom would ultimately lead to a dystopian surveillance state.[191] In view of the title which Orwell gave his novel, it was apt for the defender of American constitutional rights Edward Joseph Snowden to observe in his tweet of the 4th of November 2015: 'There's a dark irony to Theresa May's admission today that the UK has secretly engaged in domestic mass surveillance since 1984'.[192] The internet has from the outset been both conspicuously as well as surreptitiously managed. Certain content is restricted, monitored and flagged. The National Security Agency and other American government agencies have for decades been spying on American citizens and foreigners in violation of the fourth amendment. An intrusive surveillance state treats its citizens not like free people but like subjects who are the property of the sovereign.

In May 2013, Snowden was compelled to flee the United States for defending the fourth amendment. Risking his life in the defence of individual liberty and the right to privacy, he has since June 2013 lived as a fugitive in Russia. In 2015, *det Norske Akademi for Litteratur og Ytringsfrihet* 'Norwegian

189 Aldous Huxley. 1958. *Brave New World Revisited.* New York: Harper & Brothers (p. 137).

190 Luciano Floridi. 2015. 'The new grey power', *Philosophy and Technology*, 28 (3): 329–332.

191 Orwell, George. 1949. *Nineteen Eighty-Four.* London, Secker & Warburg.

192 Edward Snowden's Twitter feed, 4 November 2015.

FIGURE 8.27
A mock American election poster that went viral on social media during the 2016 United States presidential elections, but has since then largely vanished, giving the impression that this Snowden candidacy poster may have been actively scoured from the internet

Academy of Literature and Freedom of Expression', also known as the *Bjornstjerne Bjornson Academiet*, founded by the poet Knut Ødegård in 2003, awarded the Bjørnson prize to Snowden for his defence of human rights and freedom of expression. Those with insider knowledge attest that the main purpose of mass surveillance has not been to safeguard pubic security, but to effectuate a thinly veiled and totalitarian form of population control.[193]

It is an historical irony that what used to be the Soviet Union today provides a safe haven for a champion of freedom and human rights. Mainstream Western corporate news media often exhibit such a blatant bias that collusion with government is as obvious as it was in the erstwhile Soviet press. The control of a syndicated press and compliant mass media enable many a government to shape the perceptions of their populace. The United States and the United Kingdom are not the

193 Edward Snowden, Glenn Greenwald, Noam Chomsky, Nuala O'Connor. 2016. *A Conversation on Privacy*, hosted by the University of Arizona College of Behavioural Sciences at Tucson, 25 March 2016, 17h–19h Mountain Standard Time ⟨https://theintercept.com/a-conversation-about-privacy/⟩. Chomsky is often a sympathetic political commentator, although his linguistic innovations, inasmuch as they have not merely represented the reworded older insights of earlier European linguists, have for a large part been bogus; cf. discussion and references provided in van Driem (2001: 50–99). In the former Soviet Union, the anecdote was that Chomsky's political work was translated under the name Хомский, whilst his linguistic work was translated under the name Чомский, the gag being that, if his political writings were ever to fall afoul of the Kremlin, they could be suppressed and removed from libraries, whilst his linguistic work could then still be consulted. Ironically, it happens to be his linguistic work which can safely be largely ignored, whilst his political writings have often proved to be perceptive and prescient.

When, on the 14th of December 2017, a German court ruled that it was an illegal invasion of privacy for the *Bundenachrichtendienst* to store personal metadata such as the phone numbers of international phone calls, this ruling prompted Snowden the following day to tweet a reminder that: 'Mass surveillance was never classified to save lives. It was classified because the government knew that if a real court ruled on it, they would declare it unconstitutional' (Reuters Staff. 2017. 'German court rules against foreign intelligence mass communication surveillance', *Reuters Technology News*, 14 December 2017; Edward Snowden's twitter feed, 15 December 2017).

only governments in the world to operate upon the tried and tested strategy of fooling most of the people most of the time and then suppressing or discrediting the few remaining dissenting voices.[194] Fashions of political correctness can be socially enforced with as much intolerance today as they were in the historical past, and this is no doubt a perennial phenomenon.

The social website ⟨face-pic.com⟩ was first set up by Dave Ames and Mark Bruce in Stevenage in December 1999, and by November 2003 the site was aready serving more than one million users worldwide. The site enjoyed considerable popularity amongst young users in Europe, India and the rest of the world.[195] Facemash, a social website serving Harvard university students, opened only in October 2003. In 2004, Mark Zuckerberg was accused of stealing ideas from his fellow Harvard students, and a settlement was reached, ultimately awarding his victims assets worth $300 million. That same year, the company was renamed Facebook and moved to Palo Alto, California. In September 2005, Facebook experimentally opened its site to secondary school students. In 2006, Facebook expanded membership eligibility to the employees of Apple and Microsoft. Only in September 2006 did Facebook open membership to everyone aged 13 years or older with a valid email address.

According to disclosures in the European press, Facebook entered into partnership with the National Security Agency (NSA) and the Federal Bureau of Investigation (FBI) some time between 2006 and 2009, spying on its customers and passing on their private data. In chronological order, Microsoft, Yahoo, Google, PalTalk, YouTube, Skype, AOL and Apple also reportedly each entered into the PRISM spying programme of the United States government between 2007 and 2012, and their complicity sometimes extends to the pre-installation in citizens' devices of malware *sensu* Stallmann.[196] In sequel to Snowden's revelations of the unconstitutional activities carried out on a daily and routine basis by United States governmental agencies, Max Schrems filed a class action lawsuit against Facebook on the 1st of August 2014.

On the 6th of October 2015, the Court of Justice of the European Union in Luxemburg declared the European Data Protection Commission's United States Safe Harbour Decision invalid because the pervasive prying into people's private lives perpetrated by the National Security Agency, often in collusion with private corporations 'enables interference, by United States public authorities, with the fundamental rights of persons'.[197] In the

194 An old saying which exists in many renditions is: 'You can fool some of the people all of the time, and all of the people some of the time, and some people can fool most of the people most of the time, but you can't fool all of the people all of the time'. One of the numerous precursors in the no doubt long evolution of this old adage is attested in 1684 in the writings of Jacques Abbadie: 'l'on trouvera que l'éxemple, l'éducation, les ſophiſmes du diſcours, ou les fauſſes couleurs de l'éloquence ont produit des erreurs particuliéres, mais non pas des erreurs générales; on pû tromper quelques, ou les tromper tous dans certains lieux & en certains tems, mais non pas tous les hommes, dans tous les lieux & dans tous les ſiécles' (Jacques Abbadie. 1684. *Traité de la Vérité de la Religion Chrétienne. Premiere Partie*. Rotterdam: Chez Reinier Leers, pp. 10–11).

195 The founders of ⟨face-pic.com⟩ are named as Dave Ames and Mark Bruce on ⟨https://en.wikipedia.org/wiki/face-pic⟩ (as edited 12 November 2017 at 21h31). Because the Wikipedia article about ⟨face-pic.com⟩ was actively suppressed, however, for the entire decade lasting from 2008 to 2017, I previously ventured to speculate that the holders of certain vested interests had sought to squelch historical evidence that the originators of Facemash and Facebook were copycats who had taken their idea directly from this then already thriving social website (George van Driem. 2015. 'Symbiosism, Symbiomism and the perils of memetic management', pp. 327–347 in Mark Post, Stephen Morey and Scott DeLancey, eds., *Language and Culture in Northeast India and Beyond*. Canberra: Asia-Pacific Linguistics, p. 341).

196 Richard Stallmann. 2015. 'Malware is not only about viruses—companies preinstall it all the time', *The Guardian*, Friday 22 May 2015.

197 Court of Justice of the European Union. 2015. Press Release No. 117/15, Luxemburg, 6 October 2015, Judgment in Case C-362/14 Maximillian Schrems vs. Data Protection Commissioner.

aftermath, in order to facilitate continued trans-Atlantic commerce, the European Union was mollified by written assurances by the United States about voluntary self-imposed limitations on the spying on individuals. Yet the legal status of the purported safeguards remains 'very unclear', as pointed out by Sophie in 't Veld, Dutch member of the European Parliament. Austria, Slovenia, Bulgaria and Croatia abstained from voting on the new agreement amidst privacy concerns. The new agreement on the international transfer of personal data went into effect on the 12th of July 2016, entirely bypassing a European ban on the transfer and storage of people's private information outside of the European Union.[198]

Edward Snowden qualified the new deal as a 'total capitulation' by the European Union, whereby the wording of the agreement about an ostensible 'privacy shield' in reality provides United States government spies and bureaucrats with 'an accountability shield'.[199] Two years later, Snowden wrote:

> Businesses that make money by collecting and selling detailed records of private lives were once plainly described as 'surveillance companies'. Their rebranding as 'social media' is the most successful deception since the Department of War became the Department of Defense.[200]

Periodic revelations about the antics of Facebook, such as Zuckerberg's dealings with Cambridge Analytica, which Snowden qualified as 'part of the same unbroken strategy of deception',[201] together with the litigation of Max Schrems and the activism of his allies led to the drafting of the European law entitled the General Data Protection Regulation, which will come into force on the 25th of May 2018.[202] It remains to be seen whether any such legislation will ever suffice, however, to safeguard personal privacy and individual liberty from powerful and unscrupulous businessmen and governmental agencies that act as if they were altogether above the law.

Two historical motifs from the time of the American war of secession have come together again today. In Britain from 1842 onward, in the United States ever since 1913, and in numerous nations that have followed their example, individual taxation has reduced citizens to subjects, exposed to the caprice of largely unaccountable tax authorities that operate as if they were above the law. Extraterritorial citizenship-based taxation degrades citizens to serfs of the state yet further. The currently emergent surveillance state moreover reduces citizens to the hapless prey of high-handed tax authorities and other government agencies. The privacy of private individuals is pervasively violated, whereas at the same time public figures and anonymous bureaucrats and their doings remain largely invisible to the public eye.

The Illusion of Democratic Choice

The predatory collection of taxes and the invasion of privacy have come to be associated with the left and the right in politics respectively. Yet the traditional left-right spectrum is an obsolete and deceptive illusion. Foisting upon the public the conceit that there are merely two opposing sets of responses to numerous different issues makes for good show business and enables the bogus politics of what Bagehot termed the 'disguised republic' in Great Britain[203] and what Glennon called the 'Tru-

198 'New transatlantic data transfer deal sealed with "written assurances" of U.S. spying limitations', *Russia Today News*, 3 February 2016; 'EU okays "renewed" data transfer deal, lets U.S. firms move Europeans' private info overseas', *Russia Today News*, 9 July 2016.

199 Edward Snowden's Twitter feed, 2 February 2016.

200 Edward Snowden's Twitter feed, 17 March 2018.

201 Edward Snowden's Twitter feed, 10 April 2018.

202 Hannah Kuchler. 2018. 'The man who took on Facebook and won', *Financial Times, Life & Arts, FT Weekend*, 7 April 2018 (pp. 1, 18).

203 Bagehot (1873: 351).

manite network' of secret service agencies constituting the government within the government in the United States of America, largely unmoved by the outcomes of elections and concealed from public scrutiny.[204]

After the collapse of the Soviet Union and the fall of the Berlin Wall, parties of the Dutch right, symbolised by the colour blue, and parties of the Dutch left, symbolised by the colour red, found common ground to unite against the Christian centre, symbolised by the colour green. This constellation of interests first gave rise to a 'purple' coalition in the provincial government of South Holland in 1991 and later at the national level inspired three successive purple coalition governments between 1994 and 2002 and again in 2012. Likewise, After the Greek elections on the 25th of January 2014, the right-wing Independent Greeks party formed an anti-austerity coalition with the radical left party Syriza. Stepping out of the illusory framework of the two-dimensional spectrum enhanced the ability of politicians in the Netherlands and Greece to discuss each issue on its own merits.[205]

Such developments highlight the utterly anachronistic absurdity of the notion of a two-dimensional political spectrum stretching from right to left. This antiquated model originated historically in the *Assemblée nationale* which convened for one month in the summer of 1789 at the outbreak of the French revolution. Supporters of the royal veto, consisting mainly of the aristocracy and the clergy, occupied the places of honour to the right of the president of the assembly, whilst revolutionaries congregated on the side of the chamber to the left of the president.

An Orwellian surveillance state is possible anywhere within the fictitious two-dimensional political spectrum of right vs. left, for politicians of any plumage can infringe upon personal liberty, privacy and individual freedom. The sham of a choice for the entire nation between just two options renders the system prone to demagoguery and conducive to rigging. In the American context, the two motifs of predatory tax collection and the invasion of privacy have intertwined to evoke a political response in the form of the Tea Party movement, which arose in the noughties. This heterogeneous spectrum of political preferences appears to be of exceedingly diverse persuasions, united perhaps only by their opposition to the predatory, bureaucratic and spendthrift tax state.

The organisation Citizens for a Sound Economy was founded in the symbolic year 1984 by David Hamilton Koch and Charles de Ganahl Koch. The organisation, which operated for two decades, advocated a free market economy and opposed big government, but, as fate would have it, this political lobby also maintained a remarkable connection with two very different cultigens. The organisation furthered the interests of the tobacco industry, which had rightly come under assault because smoking tobacco has long been known to be carcinogenic and nicotine has been demonstrated to be a deleterious and addictive neurochemical. At the same time, this political lobby cultivated a connection to the wholesome and salubrious plant *Camellia sinensis*.

In 2002, Citizens for a Sound Economy launched a website,[206] which was quickly discontinued but which, during its fleeting existence, stated that 'our U.S. Tea Party is a national event, hosted continuously online, and open to all Americans who feel our taxes are too high and the tax code is too complicated'.[207] Soon, however, a very different voice in

204 Glennon (2014: 16, 24).

205 The instrument of the binding referendum in Swiss democracy offers a more direct instrument for citizens to govern themselves, although even in Switzerland the surveillance state has rendered the cherished good of individual privacy increasingly chimaerical (cf. Beat Kappeler. 2016. *Staatsgeheimnisse: Was wir über unseren Staat wirklich wissen sollten*. Zürich: Verlag Neue Zürcher Zeitung).

206 ⟨http://www.usteaparty.com⟩.

207 Amanda Fallin, Rachel Grana and Stanton A. Glantz. 2013. '"To quarterback behind the scenes, third-party efforts": the tobacco industry and the Tea Party', *Tobacco Control*, 8 February 2013 ⟨http://tobaccocontrol.bmj

the person of the former Republican congressman from Texas and member of the Libertarian Party, Ronald Ernest Paul, became the principal spokesman for the Tea Party movement.

Ron Paul advocated a libertarian agenda, criticised United States tax laws and the conduct of the Internal Revenue Service, opposed big government and assailed infringements against privacy and individual rights through the unconstitutional activities of the surveillance state. Ron Paul's presidential campaign received a massive inpouring of donations via a secure website during a 24-hour fund raising event on the 5th of November 2007 and again on the 16th of December 2007, timed to coincide with the 234th anniversary of the Boston Tea Party.[208] Volunteers for Paul's presidential campaign were invited to sign up on a dedicated Tea Party website.[209] His son, Randal Howard Paul, in 2009 proposed a Tea Party caucus during his campaign for the United States senate, and Michele Bachman became the first chairman of this congressional caucus in 2010.

In 2010, in their *Tea Party Manifesto*, former majority leader in the House of Representatives Dick Armey and Matt Kibbe of Freedom Works stated that the goal of the Tea Party movement was to restore individual liberty by bringing fiscal sanity to Washington and scaling down unlimited government.[210] America was no longer a government which, in the words of O'Sullivan, 'governs least'. The United States government today is the Leviathan. Economic theory indicates that government spending on a number of core functions can promote efficiency and enhance economic growth, but a healthy balance is struck when the level of government spending on such functions in modern societies does not exceed 15% of the gross domestic product,[211] though some would put this upper threshold at as high as 16%.[212]

Increases in government spending beyond this threshold have been found to be correlated with a decrease in real growth of gross domestic product. Econometric evidence shows that the security of private property rights, the enforcement of contracts and limits to government power by a just rule of law are factors which correlate directly with economic growth, higher levels of per capita income and a higher standard of living.[213] Even by models that allot an overly generous share of the economy to the public sector, the optimal threshold level for the public sector is well exceeded in many countries.[214] In the United States of America, the government is the largest employer, and government spending is so profligate that the public sector amounts to about a third of gross domestic product.

What precisely is done with tax revenue raised by the government as well as the efficiency of public spending are also matters of pivotal importance. Efficient public investment in physical infrastructure, education and human resource development are correlated with economic growth.[215]

.com/content/early/2013/02/07/tobaccocontrol-2012-050815.full⟩.

208 ⟨www.RonPaul2008.com⟩.

209 ⟨www.TeaParty07.com⟩.

210 Dick Armey and Matt Kibbe. 2010. *Give Us Liberty: A Tea Party Manifesto*. New York: Harper Collins.

211 Philip J. Grossman. 1987. 'The optimal size of government', *Public Choice*, 53 (2): 131–147; James Gwartney, Randall Holcombe and Robert Lawson. 1998. 'The scope of government and the wealth of nations', *The Cato Journal*, 18 (2): 163–190.

212 Georgios Karras. 1997. 'On the optimal government size in Europe: Theory and empirical evidence', *The Manchester School*, 65 (3): 280–294.

213 Gwartney, Holcombe and Lawson (1998); Bernhard Heitger. 2004. 'Property rights and the wealth of nations: A cross-country study', *The Cato Journal*, 23 (3): 381–402.

214 Primož Pevcin. 2004. 'Economic output and the optimal size of government', *Economic and Business Review*, 6 (3): 213–227; António Afonso and João Tovar Jalles. 2011. *Economic performance and government size*. Frankfurt am Main: European Central Bank; O. Faruk Altunc and Celil Aydın. 2013. 'The relationship between optimal size of government and economic growth: Empirical evidence from Turkey, Romania and Bulgaria', *Procedia: Social and Behavioral Sciences*, 92: 66–75.

215 Konstantinos Angelopoulos, Apostolis Philippopoulos

Some advocates of a bloated public sector are wont to point to the example of the Nordic countries. The factors underlying the anomaly of the high standard of living in Nordic countries, where public spending is high, have not yet been properly identified, but Bergh and Henrekson caution that the mechanisms by which high taxes distort the economy also apply in Scandinavia. Moreover, these Swedish economists stress that the Nordic example does not demonstrate that low-tax countries can increase taxes without precipitating negative effects on growth. Rather, the debilitating effects of high taxation on the Scandinavian economies are well attested and real.[216]

The optimal size of government and the scale of the public sector are issues of central concern to the Tea Party movement. Another issue is the choice of the principal tax base to generate revenue for the state, which Alexander Hamilton had envisaged as lying in commerce and not in the taxation of the individual citizen as a serf of the state. Yet another issue represents an ever more gross injustice. As stressed by Armey and Kibbe in their manifesto, the historical roots of the Tea Party lie in the destruction of the tea in Boston harbour, born out of the indignation of the British citizens in the Thirteen Colonies about the extraterritorial taxation imposed from afar by the mother country.

After his election to the senate, the Kentucky senator Rand Paul in 2013 spearheaded a movement to repeal the Foreign Account Tax Compliance Act (FATCA), which has been driving thousands of Americans and dual nationals living abroad to renounce their United States citizenship. He argued that the profligacy of the American government and the unaccountability of banks and financial institutions could not serve as justification for the unconstitutional practices of extraterritorial taxation and punitive emigration taxes.

At the beginning of the 20th century, the signific writings of Jacob Israël de Haan explored the relationship between meaning and law in an attempt to develop a *nieuwe rechtstaalphilosophie* 'new philosophy of legal language'. Both he and the Dutch mathematician Luitzen Egbertus Jan Brouwer addressed the ethical as well as semiotic issues raised by the use and abuse of language by lawyers, tax authorities, bankers and politicians.[217] A generation later, Orwell warned against the pseudo-English of newspeak and the manipulative tactic of doublethink, which he prognosticated would be used by the government to exploit its citizenry. In its punitive reams of paperwork, the Internal Revenue Service systematically uses words and terms in meanings that are not intuitive to native speakers of English and are not recognised by any lexicographical sources in the sense in which they are used by this agency.

Philip K. Dick paraphrased Orwell as follows: 'The basic tool for the manipulation of reality is the manipulation of words. If you can control the meaning of words, you can control the people who must use them'.[218] In some of the lengthy forms which have been foisted upon U.S. persons living abroad, choices are worded in such a way that

and Efthymios Tsionas. 2008. 'Does public sector efficiency matter? Revisiting the relation between fiscal size and economic growth in a world sample', *Public Choice*, 137 (1): 245–278.

216 Andreas Bergh and Magnus Henrekson. 2011. *Government Size and Growth: A Survey and Interpretation of the Evidence* (IFN Working Paper No. 858). Stockholm: Research Institute of Industrial Economics.

217 Jacob Israël de Haan. 1912. 'Nieuwe rechtstaalphilosophie', *Rechtsgeleerd Magazijn*, 31: 480–522; Jacob Israël de Haan. 1919. *Rechtskundige significa*. Amsterdam: Johannes Müller; Luitzen Egbertus Jan Brouwer. 1908. 'De onbetrouwbaarheid der logische principes', *Tijdschrift voor Wijsbegeerte*, 2: 152–158; Luitzen Egbertus Jan Brouwer. 1918. 'Begründung der Mengenlehre unabhängig vom logischen Satz vom ausgeschlossenen Dritten', *Verhandelingen der Koninklijke Akademie van Wetenschappen te Amsterdam*, Eerste Sectie, Deel XII, № 5 en № 7; Luitzen Egbertus Jan Brouwer. 1919. *Wiskunde, Waarheid, Werkelijkheid*. Groningen: P. Noordhoff; Luitzen Egbertus Jan Brouwer. 1933. 'Willen, weten, spreken', pp. 45–63 in *De Uitdrukkingswijze der Wetenschap*. Groningen en Batavia: P. Noordhoff.

218 Philip Kindred Dick. 1985. 'Introduction: How to build a universe that doesn't fall apart two days later' [1978], pp. 1–23 in *I Hope I Shall Arrive Soon*. New York: Doubleday (p. 7).

none of the available answers is either true or even applicable. Often the wording of the questions in such forms already contains built-in false assumptions. Yet the stated penalties for a false answer are theatrically Draconian, and the option of leaving an answer blank is not given.

In 2013, it was revealed that under Shulman the Internal Revenue Service had for years been abused by the incumbent administration to harass its political opponents, targeting for intensive scrutiny all political groups applying for tax-exempt status whose documents or applications contained the phrase 'Tea Party'. Individuals and entities mentioning 'Tea Party' found their applications indefinitely delayed.[219] Chuck Schumer defended the selective targeting by the Internal Revenue Service of the libertarian political opponents of the Obama administration and advocated this method to stifle the Tea Party politically.[220] Libertarian movements such as the Tea Party oppose collectivism, bloated government and parasitic bureaucracies. Naturally, therefore, in his appraisal of the Tea Party movement, the American historian Robert Owen Paxton qualified the Tea Party as being diametrically opposed to historical fascist movements such as the National Socialist German Worker's Party.

> The Tea Party is at the farthest remove from fascism's state-enhancing nature. With its opposition to all forms of public authority and its furious rejection of any obligation to others, it is better called right-wing anarchism. It is individualism run amok, a denial of any community obligations, the very opposite of a fascist appeal to the supremacy of communal obligations over individual autonomy.[221]

Paxton rightly highlighted the ideological opposition of the Tea Party movement to the type of intrusive government control advocated by fascists,[222] but it is both inaccurate and far-fetched to

219 'Le Tea Party pris pour cible par le fisc américain: Scandale—Les républicains sont en colère après avoir entendu les aveux du fisc américain. Celui-ci a admis avoir enquêté sur des membres de groupes proches de la mouvance anti-impôt du Tea Party', *Le Matin*, 11 mai 2013 ⟨http://www.lematin.ch/monde/ameriques/tea-party-pris-cible-fisc-americain/story/22829427⟩; Stephen Dinan. 2015. 'Judge orders IRS to release list of tea party groups targeted for scrutiny', *The Washington Times*, 2 April 2015 ⟨http://www.washingtontimes.com/news/2015/apr/2/irs-ordered-to-release-list-of-targeted-tea-party-/⟩; Robert W. Wood. 2015. '19 Facts on IRS targeting President Obama can't blame on Republicans', *Forbes*, 23 July 2015 ⟨http://www.forbes.com/sites/robertwood/2015/07/23/19-facts-on-irs-targeting-president-obama-cant-blame-on-republicans/#71bfe16a1e82⟩; Stephen Dinan. 2015. 'Tea party targeting accusations, legal issues persist for IRS after Justice ends probe', *The Washington Times*, 25 October 2015 ⟨http://www.washingtontimes.com/news/2015/oct/25/irs-tea-party-targeting-accusations-legal-issues-p/?page=all⟩.

220 Alana Goodman. 2014. 'Schumer calls for using IRS to curtail Tea Party activities: Democratic senator says Obama should bypass Congress, use executive powers', *The Washington Free Beacon*, 23 January 2014 ⟨http://freebeacon.com/issues/schumer-calls-for-using-irs-to-curtail-tea-party-activities/⟩; 'Editorial: Chuck Schumer urges IRS to harass Tea Party groups into silence', *Washington Times*, 24 January 2014 ⟨http://www.washingtontimes.com/news/2014/jan/24/editorial-silencing-the-opposition/⟩; Becket Adams. 2014. 'Chuck Schumer call on IRS to crack down on Tea Party funding: "Redouble those efforts immediately"', *The Blaze*, 24 January 2014 ⟨http://www.theblaze.com/stories/2014/01/24/chuck-schumer-calls-for-irs-to-crack-down-on-tea-party-funding/⟩; Matte Kibbe. 2014. 'Chuck Schumer wants to regulate the Tea Party out of existence', *Washington Examiner*, 27 January 2014 ⟨http://www.washingtonexaminer.com/chuck-schumer-wants-to-regulate-the-tea-party-out-of-existence/article/2542954⟩.

221 Robert Owen Paxton. 2016. 'Is fascism back?', *Project Syndicate*, 7 January 2016 ⟨http://www.project-syndicate.org/commentary/is-fascism-back-by-robert-o--paxton-2016-01⟩.

222 At the time that the U.S. secret services were triumphantly preaching to America's allies that further curtailments of civil rights were required in order to be able target specific individuals, the government agents of just such 'a criminal-justice system rife with intimidation and prosecutorial overreach', as the family statement later described it, had through their dogged persecution driven Aaron Swartz to commit suicide on the 11th of January 2013 (Verlagsgruppe Bonnier. 2012. 'US-Geheimdienste: Staaten müssen Kampf gegen Einzel-

FIGURE 8.28
January 2014 cover of *The Economist*

characterise all the heterogeneous groups within this movement as advocating 'a denial of any community obligations'.

In origin, the Tea Party is a libertarian movement, and as such opposes individual liberty to the tyranny of the collective.[223] In practice diverse organisations and groups, often espousing substantively different views on various issues, have been subsumed under the label 'Tea Party' or identify themselves as representing the Tea Party movement. In 2013, an environmentalist initiative of the Tea Party Patriots in the American state of Georgia, led by Debbie Dooley, who advocated solar energy above polluting fossil fuels, found themselves opposing the anti-environmentalist policies of Americans for Prosperity.

personen verschärfen', *Deutsche Wirtschafts Nachrichten*, 12. Dezember 2012; Sam Gustin. 2013. 'Aaron Swartz, tech prodigy and internet activist, is dead at 26', *Time*, 13 January 2013; Clive Crook 2013. 'The death of Aaron Swartz', *The Atlantic*, 15 January 2013).

223 'It is vain to fight totalitarianism by adopting totalitarian methods. Freedom can only be won by men unconditionally committed to the principles of freedom. The first requisite for a better social order is the return to unrestricted freedom of thought and speech' (Ludwig Heinrich Edler von Mises. 1944. *Omnipotent Government: The Rise of the Total State and Total War*. New Haven, Connecticut: Yale University Press, p. 14).

Ironically, however, the latter organisation was funded mainly by the Koch brothers, who had in 2002 originally launched the 'U.S. Tea Party' as an online forum against high taxes and a complicated tax code. Dooley called her environmentalist form of free market advocacy the 'green tea coalition', yet she soon appeared to discredit the sincerity of her commitment to any genuine green tea politics by her public endorsement on the 24th of January 2016 of a presidential candidate who, in addition to indulging in much uninhibited public buffoonery, had long blatantly denied the findings of climate science with regard to anthropogenic global warming. There is no telling, therefore, how the term Tea Party will be used and abused in future. The label may continue to be brandished by groups with differing views on certain issues. As with all labels, the designation 'tea party' is likely to be usurped by groups espousing contrary ideologies or pursuing policies incompatible with or opposite to that of previous tea parties. Time will tell.

In January 2014, the cover of *The Economist* depicted the heads of the *Partij voor de Vrijheid* in the Netherlands, the United Kingdom Independence Party and the French *Front National* as representing Europe's tea parties. The disparate medley of political factions which have been designated as 'tea parties' in Europe and America differ in their policies, however, sometimes in very salient ways. *The Economist* attempted to identify the trait that unifies the disparate tea parties as lying in their opposition to bloated federal governments in Washington and in Brussels, 'bulging with bureaucrats', and in their anti-authoritarian opposition of the state as a 'self-serving Leviathan … designed to look after itself, rather than the citizens it is supposed to serve'.[224]

Within the European Union, citizens pay extraterritorial taxes to an unaccountable bureaucratic élite in Brussels. This privileged and parasitic class nestled in the seat of the European Commission, the Council of the European Union, the European Council and the European Parliament devise tariffs, quotas and labyrinthine regulations which act as protectionist measures, stifle competition, hamper small-scale entrepreneurship, foster crony capitalism and prevent a healthy marketplace subject to the healing forces of natural selection. Tea, an Asian cultigen, played a major role in the political, fiscal and economic history of Europe and a pivotal role in the genesis of America as a nation state. Tea, and perhaps even green tea, will continue to play an emblematic role in the political future of both Europe and America.

224 'Europe's Tea Parties: Insurgent parties are likely to do better in 2014 than at any time since the Second World War', *The Economist*, 4–10 January 2014 (p. 7).

Tea Looks for a New Home and Chaos Erupts in Europe

George Meister, an employee of the Dutch East India Company, planted Japanese tea plants in Java in 1687 and at the Cape of Good Hope in 1688. The tea plants in the gardens at Batavia and Kaapstad, which later also acquired the English name of Cape Town, grew and were admired as ornamental botanical specimens but never yielded commercial tea, since it was far more expedient to import tea from China. The English botanist John Ellis sent tea seeds to the British colonies in North America in the 1760s, where they failed to germinate.

In 1778, the naturalist and botanist Sir Joseph Banks prepared a report for the British East India Company on the prospects for new crops. At the time, Banks still thought in terms of the distinction between *Thea bohea* and *Thea viridis* as representing two distinct species, as asserted by Linnæus in 1762 in the second edition of his *Species Plantarum*. Banks expressed the opinion that black teas grew best between the 26th and 30th parallel and that green teas grew best between the 30th and 35th parallel. Banks noted wryly that it was neither feasible nor advisable 'to attempt at once to dispossess the Chinese of the whole Tea Trade', and instead he prophetically proposed that in India the British East India Company devote its efforts to producing something less ambitious:

FIGURE 8.29
Sir Joseph Banks in 1773, as portrayed by Joshua Reynolds (1723–1792), National Portrait Gallery, London

> All undertakings of new manufacture should commence with Articles of Inferior Quality, they being less difficult in preparation and more certain (as they fall into the hands of the Lower orders of People) of being admitted into immediate use, than higher prizd commodities, intended for the consumption of those who have more distinguishing palates and Fewer reasons for being economical …[225]

Banks also proposed that in northeastern India, the company should strive to produce black tea and suggested that the 'Mountains of Boutan afford in a short distance all the Climates … necessary for the production of the Green Teas'. Banks furthermore proposed that Chinese tea experts from Hénán 河南 could 'be induced by the offer of Liberal Terms' to come to India on British ships and help set up tea gardens in the northeast.

However, tea was not yet cultivated in India at this time, and the tea from which Englishmen, both in Britain and in her colonies, took comfort was still Chinese tea. Without mentioning tea by name, the pious poet William Cowper in 1785 evoked the cosy comfort of a late afternoon tea in wintertime.

> Now ftir the fire, and clofe the fhutters faft,
> Let fall the curtains, wheel the fofa round,
> And while the bubbling and loud-hiffing urn

225 Sir Percival Joseph Griffiths. 1967. *The History of the Indian Tea Industry*. London: Weidenfield and Nicolson (pp. 33–34).

Throws up a ſteamy column, and the cups,
That cheer but not inebriate, wait on each,
So let us welcome peaceful evening in.[226]

Meanwhile in France, in 1782 three tea trees were know to grow as exotic botanical specimens. One tea tree grew in the *Jardin des Plantes*, another in the garden of duke Jean Paul Timoléon de Cossé Brissac and a third in the private garden of a collector of exotic plants named *monsieur* 'de Janſſen'.[227] In 1789, the *Jardin des Plantes* acquired several more tea trees.[228] Soon the motif of tea would be exploited metonymically for its association with wakefulness and prudence.

Costly French exertions against Great Britain during the Seven Years' War (*gerebatur* 1756–1763) and the American war of secession (*gerebatur* 1775–1783) had caused a deep fiscal crisis which had brought the government of Louis XVI (*regnabat* 1774–1791) to the brink of bankruptcy. The bid to introduce new taxes by the States General in an attempt to keep up with the rampant costs of the crown's military activities triggered a revolution. In the summer of 1789, barely six years after the signing of the Treaty of Paris, turmoil broke out in Paris. The French revolution led to the Reign of Terror (1793–1794), a bellicose imperial dictatorship under Napoléon Bonaparte (1804–1814, 1815) and to a restoration of the monarchy under the House of Bourbon (1814–1830). The failure of the French revolution was manifest not just in terms of the horrors for France and Europe which this upheaval ushered in to replace the *ancien régime*, but turned out perhaps to be even greater when measured in economic terms. France ceded pride of place to Great Britain and would never again recuperate its relative economic advantage.[229]

A disillusioned eyewitness of these historical events, the satirical journalist and dramatist Auguste-Louis Bertin d'Antilly (1763–1804) abandoned his originally Jacobin views during the reign of the *Directoire* (1795–1799). The *Directoire* harassed the free press by implementing fiscal measures, stamp taxes and surtaxes. Undaunted, Bertin d'Antilly published the fiercest of all the royalist newspapers of the period in the year 1797. In this journal, which was aptly named *Le Thé*, Bertin d'Antilly warned against Napoléon Bonaparte's dictatorial ambitions. In an attempt to awaken men amenable to reason, vendors played on the title by hawking the paper in the streets:

Qui veut du *Thé?* ... Prenez votre *Thé*, Messieurs!
... Il est fort le *Thé!* ... Voilà du *Thé!*[230]

Who wants some tea? ... Get your tea here, Sires!
... It's strong stuff, the tea! ... Here's some tea!

Le Thé appeared on the 18th and the 29th of April and on 1st, 4th and 12th of May 1797, but on *18 fructidor an V* (i.e. the 5th of September 1797), *Le Thé* was suppressed by the *Directoire* during their *coup d'état.*

Like many other gifted intellectuals in the wake of the French revolution, Bertin d'Antilly went into exile, but he continued to oppose Napoléon Bonaparte from Hamburg. Napoléon was very sensitive to what was said about him in the press, and, as he once confided to Joseph Fouché, he always kept in mind how his actions might be perceived by public opinion on the boulevard Saint-Germain. Napo-

226 William Cowper. 1785. *The Task, A Poem in Six Books.* London: J. Johnson (Book IV, p. 139).

227 Pierre Jean-Baptiste le Grand d'Aussy. 1782. *Histoire de la vie privée des françaís, Depuis l'origine de la Nation juſqu'à nos jours* (three volumes). Paris: l'Imprimerie de Ph.-D. Pierres, Imprimeur Ordinaire du Roi (Vol. III, p. 101).

228 Pierre Jean-Baptiste le Grand d'Aussy. 1815. *Histoire de la vie privée des françois depuis l'origine de la nation jusqu'à nos jours, Nouvelle Édition avec des notes, corrections et additions par Jean-Baptiste-Bonaventure de Roquefort* (three volumes). Paris: Laurent-Beaupré (Vol. III, pp. 117–118).

229 René Sédillot. 1987. *Le coût de la Révolution française: Vérités et légendes*. Mesnil-sur-l'Estrée: Perrin.

230 Louis Gabriel-Robinet. 1960. 'Napoléon, journaliste', *Les Annales Conferencia,* LXVII (115): 5–21 (My gratitude goes to Philip Dwyer at the University of Newcastle in New South Wales for putting me on this trail).

FIGURE 8.30 *Exit liberté à la françoise*, a political cartoon by James Gillray from 1799, depicting the failure of the reign of the *Directoire* marking the end of the French revolution

léon too used tea as a figure of speech in a love letter which he wrote to Joséphine in 1796, saying that he had not drunk one cup of tea without cursing the ambition and thirst for glory that had kept him away from her.

> An IV, 10 germinal … Je n'ai pas passé un jour sans t'aimer; je n'ai pas passé une nuit sans te serrer entre mes bras; je n'ai pas pris une tasse de thé sans maudire la gloire at l'ambition qui me tiennent éloigné de l'âme de ma vie.[231]

> Year IV, the 10th of *germinal* (i.e. the 30th of March 1796) … I have not spent one day without loving you. I have not spent one night without holding you in my arms. I have not taken one cup of tea without cursing the ambition and thirst for glory that have kept me separated from the soul of my life.

231 Chantal de Tourtier-Bonazzi. 1981. *Napoléon: Lettres d'amour à Joséphine*. Paris: Arthème Fayard (p. 51).

CHAPTER 9

Tea Transformed: Wars in Asia

Opium for Tea

Familiarity with tobacco had spread to Europe from the Americas in the 16th century, and tobacco was introduced to Asia at the beginning of the 17th century by Europeans. The practice of mixing opium, an ancient Old World drug, with the newly discovered New World drug tobacco and smoking this mixture is believed to have been innovated in China, where both commodities were introduced by the Portuguese in 1620.[1] The devastating effects were observed, but it was over a century later, in 1729, that the third Qīng dynasty emperor Yōngzhèng 雍正 (*imperabat* 1722–1735) forbade the sale and smoking of opium.

There was a demand for opium in China, however, and European traders sought to cash in on this trade. The Dutch traded in medicinal opium from India, where Patna was the main marketplace. The potential for the abuse of medicinal opium had perennially been exploited by the unscrupulous. After the Battle of Plassey in 1757, Bengal came under British control, and the Dutch were no longer able to ship opium from Bengal to Batavia, and the British displaced the Dutch as opium traders.

The opium trade in India was loosely regulated, and the opium produced was sold at auction in Calcutta. In 1757, the emperor Qiánlóng 乾隆 (*imperabat* 1735–1795) issued an edict of eight new rules seeking to prevent any permanent year-round residence of foreign tea traders on Chinese soil. Consequently, in 1761 the Dutch and French East India Companies operating in Canton installed themselves at Macau, whither they could withdraw for the part of the year when Canton was closed to foreigners. The Dutch and French were followed at Macau by the Danes and Swedes in 1762, and the British in 1773.

After the Seven Years' War (*gerebatur* 1756–1763), the number of British ships soon began to exceed those of all the other nations represented in Canton combined, though half of these were privateers and not British East India Company vessels. The French East India Company went bankrupt in 1769 and transferred all its assets to the crown. As a consequence of widespread nepotism and corruption, the British East India Company was likewise financially floundering by the 1770s, and new reforms had to be promulgated in the East India Company Act of 1772. Later, in 1784, even more drastic reforms would give this third and most recent incarnation of the British East India Company a new lease on life.

During this period, tea had already established itself as the standard English breakfast drink, for some evidently even replacing some more substantive forms of sustenance. In 1772, Lettsom lamented that:

> Before the ufe of Tea, the general breakfaft in this country confifted of fomething more fubftantial; milk in various ſhapes, ale and beer, with toaft, cold meat, and other additions.[2]

Twelve years later, in 1784, the universality of tea as the English breakfast drink was corroborated by the duke François Alexandre Frédéric de la Rochefoucauld.

In 1773, seventeen years after Mr. Hanway's exhortations to do something about the trade deficit, Warren Hastings established a British East India Company monopoly over the opium trade in India. Meanwhile, triggered by extraterritorial taxes on tea, the British colonists in the Thir-

1 António Pedro Pires. 2012. 'A via do chá', *Revista Oriente*, 21: 100–120.

2 Lettsom (1772: 52).

FIGURE 9.1
The emperor Yōngzhèng 雍正 (1722–1735), like his predecessor Kāngxī 康熙 and his successor Qiánlóng 乾隆, was an epicurean tea drinker, and in 1729 he forbade the sale and smoking of opium

teen Colonies started the American war of secession (*gerebatur* 1775–1783). The insurrection in the Americas cut off British supplies of silver from Mexico, so that the selling of opium in China in exchange for silver credits with which to buy tea became an urgent priority. In fact, the knowledge of the drug abuse situation in China in light of the gargantuan trade deficit inspired British policy makers to capitalise upon the plight of opium addiction in China.

The Treaty of Paris and the Fourth Anglo-Dutch War

The British navy harassed Dutch ships because the Dutch had continued to trade with, and thereby to assist, the British insurgents in the Thirteen Colonies. The Fourth Anglo-Dutch War (*gerebatur* 1780–1784) broke out at a time when the prices for tea were soaring in Europe, totally disrupting the Dutch Canton trade in the years 1781 and 1782, and then bringing the Dutch tea trade to a halt. On the 3rd of February 1781, the British seized St. Eustatius, the Dutch island in the Caribbean where the American secessionists could stock up on wares from Europe. Disgruntled with the Dutch support of the secessionists, the British navy intercepted

FIGURE 9.2 Panoramic view of Macau from Penha hill, painted by an unknown artist around 1870

and captured over 200 Dutch ships in 1781. The British seized all Dutch forts on the African coast with the sole exception of Elmina.[3]

At the Peace of Paris in 1783, the British Crown recognised the independence of the Thirteen Colonies in America, and the border between the Thirteen Colonies and British North America was delineated. At this time, the United Provinces suffered severe losses for their support of the secessionists. By provision of the Paris treaty, the Dutch East India Company was compelled to concede British trade access to the Moluccas and to cede the port of Negapatnam on the Coromandel coast to the British East India Company.

During the Fourth Anglo-Dutch War, the Dutch East India Company had begun to become an unprofitable enterprise,[4] and British supremacy on the seas had become an established fact. In 1784, just one year after the Treaty of Paris at the conclusion of the American war of secession, the Americans too promptly entered the Canton tea trade. In February 1784, the American ship *The Empress of China* sailed from New York, and in August the Americans made their début in Canton, buying tea that arrived back in New York in May 1785.

In 1734, Thomas Twining's son Daniel, at the age of 31, became his father's business partner, and in 1741 he took over the business when his father died. When Daniel himself died in 1762, his wife Mary Little ran the company for 21 years, raising her sons Richard and John in the tea business. The eldest son Richard Twining took over the tea business in 1783 and became president of the London tea merchants in 1784. In September 1784, Richard Twining influenced the then 25-year-old prime minister William Pitt the Younger to draft and enact the Commutation Act, which reduced the tax on tea from 119 % to 12.5 % in one fell swoop. At the same time, Pitt raised the tax on windows to compensate for the loss of revenue. With regard to the Commutation Act, Richard Twining at the time clearly stated the purpose of the legislation, 'The *general Intent* of this Bill already appears: it was the fuppreffion of Smuggling'.[5]

3 Jan Willem Schulte Nordholt. 1982. *The Dutch Republic and American Independence*. Chapel Hill: University of North Carolina Press; Jurriën van Goor. 1994. *De Nederlandse koloniën: Geschiedenis van de Nederlandse expansie, 1600–1975*. 's Gravenhage: Staatsdrukkerij- en Uitgeverijbedrijf.

4 Jaap R. Bruijn. 1990. 'Productivity, profitability and costs of private and corporate Dutch ship owning in the seventeenth and eighteenth centuries', pp. 174–194 in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*. Cambridge: Cambridge University Press.

5 Twining (1784: 7).

FIGURE 9.3 At the Battle of the Dogger Bank on the 5th of August 1781, Dutch battleships assailed a British convoy on their way home from the Baltic during the Fourth Anglo-Dutch War, by Thomas Luny, 54.6 × 86.3 cm, oil on canvas, National Maritime Museum, Greenwich

After the Commutation Act had repealed the usurious duty on tea, the consumption of tea legally imported into England skyrocketed from 2,650 tonnes in 1783 to 6,800 tonnes in 1785. Tea consumption increased as prices fell, and Richard Twining propagated tea as an alternative to ale for breakfast, since most water in London was not generally potable at the time. Tea smuggling from Holland, Denmark and France was drastically reduced. Despite this massive reduction in the incentive to smuggle, even the 12.5 % tax was perceived to be steep enough to continue to ensure smugglers of tea into Britain of a highly lucrative and rewarding business during the first half of the 19th century.[6] At this time, the consumption of tea in English society became universal.

Whilst travelling in England in that same year, the duke François Alexandre Frédéric de la Rochefoucauld described the central position which tea had come to occupy in English life:

> Throughout the whole of England the drinking of tea is general. You have it twice a day and, though the expense is considerable, the humblest peasant has his tea twice a day just like a rich man; the total consumption is immense … I have already remarked the universal consumption of tea in England from the lowest peasant to the highest of the nobility and in such large quantities that it is reckoned that in the course of the year every single person, man and woman, on the average consumes four pounds of tea. That is truly enormous.[7]

6 Henry Noel Shore. 1892. *Smuggling Days and Smuggling Ways: or, The Story of a Lost Art*. London: Cassel & Company.

7 Marchand (1933: 23, 26).

FIGURE 9.4
The tea merchant Richard Twining (1749–1824) influenced the 25-year-old prime minister William Pitt the Younger to lower the tax on tea from 119 % to 12.5 %, National Portrait Gallery, London

After the war, the Dutch continued from Canton to supply tea to the British market for an additional two years before the British East India Company from 1786 began to outbid the Dutch tea merchants in Canton.

By the time of the Commutation Act in 1784, the Dutch East India Company was already on its last legs. The British East India Company had resolutely muscled in on the seminal trade commodity of the Dutch East India Company and had begun to force the United Provinces out of the market. In 1789, the United States of America imposed an import duty on tea as a protectionist measure to favour its own tea trade above European imports, which at once further adversely affected the Dutch tea trade. Soon tea was flooding the British market, some of which they began to export to the United Provinces. In sequel to this odd reversal, the United Provinces introduced import restrictions on tea for the first time on the 14th of July 1791, when Holland was suddenly flooded with tea from all sorts of traders, including Americans.

The Napoleonic Threat Prompts Strategic Realignments in the East

In 1792, George Macartney embarked for China as British emissary to the Chinese emperor. In June 1793 on the H.M.S. *Lion*, the British embassy sailed up the Peiho (Mandarin *bái hé* 白河 'white river') to Peking, with an escort boat preceding them carrying a banner in Chinese announcing that the British ship bore tribute-paying barbarians. The audience with emperor Qiánlóng 乾隆 in the Forbidden City deeply impressed the British emissaries, but they failed to secure any concession whatsoever from the Chinese.

In 1794, at the height of the Reign of Terror, the French East India Company, which had been re-established just nine years before in 1785, went bankrupt once again. In 1795, Napoléon overran the United Provinces and set up a French vassal state known as the Batavian Republic, against which England declared war, seizing much of the Dutch East India Company fleet and occupying the Dutch territories of Ceylon and the Cape Colony. With the Napoleonic occupation of the

Low Countries, London replaced Amsterdam as the world's biggest financial centre. The Batavian Republic nationalised the flailing Dutch East India Company in 1796 and reaffirmed its monopoly on tea.[8]

The collapse of the Dutch tea trade, however, inevitably precipitated the company going into liquidation in 1798. The company continued to exist nominally as its assets were sold off, and the Dutch tea trade was bought up in the form of licences by private traders, most of whom were Americans.[9] After Waterloo, the China tea trade in this way essentially passed into British and American hands. The Dutch East India Company ceased to exist on the last day of 1799.

Meanwhile, in the first year of his reign, the seventh Qīng emperor Jiāqìng 嘉慶 (*imperabat* 1796–1820) outlawed the smoking, cultivation and importation of opium, reaffirming the ban decreed in 1729 by emperor Yōngzhèng 雍正. The English opium traders were undaunted, however, and the hoppos were sometimes complicit.[10] The British East India Company implemented measures to grow opium poppies economically and in abundance.[11] Since the importation of opium into China was now illegal, the Company sold the opium to traders such as the Scottish brothers Daniel and Thomas Beale and the Englishman Hollingworth Magniac, who were opulent and prominent opium dealers in Macau.

Upon the demise of the Dutch East India Company, its operations at strategic locations such as Desima and Batavia were taken over by the Dutch government. Though the Dutch East India Company was no longer, the Dutch tea trade to England continued, although the outlook at this time was bleak. The following excerpt written in 1804 reflects an informative perspective on the global tea trade during the final years of the Batavian Republic.

> Door den loop der tyden zyn de meeste Waaren, die wy in China haalen, van minder gewigt geworden, en de Thee van des te meer gewigt. Wy zullen ons derhalven tot dit Artikel alleen bepaalen, en de anderen als flegts bykomende, en den gang van dit moetende volgen, befchouwen. De fleet van Thee in Europa is niet algemeen, offchoon dezelve, gelyk als alle kostbaare producten van weelde, van jaar tot jaar toeneemt. De voornaamfte fleet van Thee is in Engelland, in ons Land, in Deenemarken en het Noorden van Duitschland, en dezelve begint vorderingen te maaken in Frankryk en het geheel Zuiden van Europa. Dan in Engelland is dezelve zo groot, dat het geheele vaste land van Europa daar niet by in aanmerking komt, vermits 'er wel twintig millioenen ponden 's jaars worden gefleeten … Engelland heeft zig zo wel by deeze verandering bevonden, dat de verhooging van inkomende regten van 12½ p.c. op alle de Goederen, dit jaar voor den oorlog ingevoerd, eene uitzondering lydt voor zeer weinige goederen, en onder deezen de Thee. Wy mogen derhalven niet meer rekenen op eenigen aftrek van het door ons aangebragte naar Engelland. Op het vaste land hebben de Portugiezen, de Franfchen, de Deenen en Zweeden, ja zelfs de Noord-Amerikanen, benevens ons, Thee aangebragt. Dan indien het Verbod van invoer van vreemde Thee in dit Land, gedaan in 1791, was opgevolgd geweest van eenige vredejaaren, zo zouden alle die Natien, die eigentlyk op onze markt fpeculeerden, denkelyk hebben moeten uitfcheiden, en wy zouden fchier alleen Thee aangebragt hebben voor het vaste Land. Nu is het tegendeel gebeurd, wy zyn altyd van den éénen Oorlog in den anderen gevallen, en alle de gemelde Natien, op de Franfchen na, hebben met een verdubbelden yver kunnen op

8 Elisabeth Susanna van Eyck van Heslinga. 1988. *Van compagnie naar koopvaardij: De scheepvaartverbinding van de Bataafsche Republiek met de koloniën in Azië, 1795–1806*. Amsterdam: De Bataafsche Leeuw.

9 Mansvelt (1924: 134).

10 Morse (1926, 1929).

11 James Windle. 2012. 'Insights for contemporary drug policy: An historical account of opium control in India and Pakistan', *Asian Criminology*, 7: 55–74.

China vaaren, en Europa, ja ons zelven, van Thee voorzien.[12]

Over the course of time, most of the commodities that we acquire in China have become of less consequence, whilst tea has become all the more important. Therefore, we shall limit ourselves to this article alone, and only consider other wares secondarily. The consumption of tea in Europa is not universal, although its use, like that of other luxury products, increases from year to year. Tea is consumed primarily in England, in our country, in Denmark and in the north of Germany, and tea has been gaining in popularity in France and in the whole of southern Europe. However, the use of tea on the entire European mainland pales in comparison to the English consumption of tea, as twenty million pounds of tea are consumed there annually … In response to the war and recent changes, England this year introduced an increase of their import duties by 12½ per cent on all goods, with very few exceptions, including tea. Therefore, we can no longer count on any market for our tea in England. On the European mainland, in addition to ourselves, tea has been shipped in by the Portuguese, the French, the Danes, the Swedes and even by the North Americans. If the import ban of 1791 on foreign tea brought into this country had been followed by several years of peace, then all the nations that had speculated on our market would have had to have given up by now, and we alone would have brought in all the tea for the European mainland. Now the very opposite has happened, and we have been caught up in one war after the other, and all the countries mentioned, other than the French, have been able to sail to China with redoubled zeal and to supply Europe and ourselves with tea.

The Dutch were not alone, however, in bemoaning lost opportunities in the tea trade. The Commutation Act also curtailed the Danish and Swedish tea smuggling trade. The Swedish East India Company folded in 1813, and the Danish *Asiatisk Kompagni* was dissolved in 1843, and in 1845 the Danish government sold its possessions on the Indian subcontinent to the British East India Company for one million *rigsdaler*. Meanwhile, Britain converted its East India Company into a government body, with the governor general in council possessing the power to send its agents to territories belonging to the East India Company, forts and factories. From the early 19th century, the British East India Company, established in April 1702, was the only remaining East India Company, and this corporate entity exercised unprecedented authority in parts of Asia under British rule.

In 1795, when French troops overran the United Provinces, Surat as well as Kerala further to the south were ceded to Britain by *stadthouder* Willem V (*obtinebat* 1751–1806) on behalf of the United Provinces by an instruction issued from Kew Palace in order to prevent Surat and Kerala from falling into the hands of the invading revolutionaries of the French republic. Surat was restored to Dutch rule by the Anglo-Dutch treaty of the 13th of August 1814. At this juncture in history, the custom of English breakfast tea, lamented by Lettsom in 1772 and observed to be widespread throughout England by the French duke de la Rochefoucauld in 1784, and thereafter also propagated by Richard Twining, had not only endured but had come to be an established English institution. In 1812, William Buchan testified in plaintive tones to the universality of tea as the British breakfast drink.

> Tea is now the universal breakfaſt in this part of the world; but the morning is ſurely the moſt improper time of the day for drinking it. Moſt delicate perſons, who, by the bye are the greateſt tea-drinkers, cannot eat any thing in the morning. If ſuch perſons, after faſting ten or

12 Gysbregt Karel van Hogendorp. 1804. *Memorie van den Tegenwoordigen Staat van den Handel en de Culture in de Oost-Indische Bezittingen van den Staat*. Amsterdam: Weduwe J. Doll (blz. 31–33).

FIGURE 9.5 Macau as depicted on a postcard from 1890

twelve hours, drink four or five cups of green tea without eating almoſt any bread, it muſt hurt them.[13]

The British had harboured designs on Macau throughout the 18th century. When Napoléon invaded and occupied Portugal, the Portuguese royal court of queen Maria I (*regnabat* 1777–1816) was compelled to move to Rio de Janeiro, which became the capital of the kingdom of Portugal from November 1807 to April 1821. To prevent Macau from falling into French hands, the British sent rear-admiral William O'Bryen Drury to take possession of Macau in September 1808. The Portuguese refused, thinking that they would lose Macau forever and knowing also that the Chinese would object. Seeing themselves overpowered, the Portuguese chose instead to dictate terms and stipulated that no British flag would be shown so that Macau would remain literally under Portuguese flag.[14]

After the British troops installed themselves in Macau, the Chinese closed the tea trade at Canton, and traders and staff fled to Macau. Furthermore, the Chinese emperor ordered that the British leave. Together with John Roberts, president of the select committee of tea traders, Drury plotted in November to attack Canton. The Canton tea trade was too valuable, however, and all the other senior supercargoes of the British East India Company on the select committee opposed the invasion and urged Drury and his troops to leave. The imperial orders were obeyed, and the British troops withdrew. Yet the feared French foe never showed his face at Macau.[15]

The situation was very different in the Dutch East Indies, a realm nearly as vast as Europe in its sheer geographical girth. In 1806, the Netherlands had been occupied by Napoléon, who had put his brother Louis on the throne of what then became

13 William Buchan. 1812. *Dr. Buchan's Domestic Medicine; or a Treatise on the Prevention and Cure of Diseases, by Regimen and Simple Medicine*. Newcastle: K. Anderson, Side Printing-Office (p. 91).

14 Morse (1926, 1929).

15 Coates (1988).

FIGURE 9.6 Jardine and Matheson's opium flagship *Falcon* on the South China Sea near Hong Kong, enhanced detail from an 1842 lithograph by Thomas Goldsworthy Dutton (1820–1891), based on an earlier painting by Nicholas Matthews Condy (1816–1851), 28.2×43 cm, National Maritime Museum, Greenwich

the Kingdom of Holland, and on the 9th of July 1810 the Netherlands were annexed by France outright. Gilbert Elliot-Murray-Kynynmound, the 1st earl of Minto, led the British campaign to Java to seize the Dutch East Indies. The British fleet and 10,000 troops entered the harbour of Batavia on the 4th of August 1811.

Between 1811 and 1819, British imports from China totalled over £72 million, with tea accounting for £70 million. In the early 19th century, the British East India Company was required by law to maintain a buffer stock of an entire year's supply of tea. In the century between 1711 and 1810, the British tea trade alone had been good for £77,000,000 in taxes, and by 1810 taxes on the tea trade from China accounted for 10% of government revenue.[16]

In 1813, the East India Company monopoly on trade with India was abolished, but not its monopoly on British trade in China, including tea. Opium sales rose in 1815 when the Company reduced the price on fine Patna opium, but that same year the governor of Canton arrested several Chinese opium dealers and searched all ships in Macau and Whampoa. The losses to opium traders were enormous, and for a while the trade came to a sudden halt. In Macau, the once affluent Scottish opium trader Thomas Beale was reduced to penury.

16 Harry Gregor Gelber. 2004. *Opium, Soldiers and Evangelicals: Britain's 1840–42 War with China, and its Aftermath*. Houndmills, Basingstoke; Palgrave Macmillan (p. 33).

More Reshuffling in the East

Napoléon Bonaparte was banished to the island of St. Helena in the South Atlantic in December 1815. In August 1816, five years after the British had seized the Dutch East Indies, Thomas Stamford Bingley Raffles peacefully handed over the Dutch East Indies to Godert Alexander Gerard Philip van der Capellen, and so the vast Indonesian archipelago came once again to be under Dutch administration. In that same year, a new British mission to China was led by William Amherst, but the British emissary was not even granted an audience with the emperor or even permission to enter Peking because, unlike Dutch or Russian emissaries, Amherst refused *a priori* to kowtow (< Hokkien *khàp-thâu* 磕頭 [kʰap ˧ tʰaʊ ˧˥]) to the emperor. Amherst returned having achieved nothing in 1817.

In 1819, the British under Thomas Stamford Raffles established a trading post at Singapore. In 1819 and in 1820, two young Scotsmen, James Nicolas Sutherland Matheson and William Jardine, came to Canton, where they each began trafficking opium up and down the Chinese coast. Because of the danger of the confiscation of the illegal drug at Whampoa and Macau, they moved their bases of operations to Lintin island (Cantonese *ling^{4}ding^1* 伶仃 [lɪŋ ˨˩ tɪŋ ˥] 'lonely') in the Pearl River estuary, and the price of opium in China rose. Matheson traded in East India Company opium, and Jardine acquired Hollingworth Magniac's opium smuggling business. By serving as the consul of Prussia or Denmark, these opium pedlars gained a degree of immunity and greater manoeuvrability.

Then in 1822, the trade with China was suspended for one year after an incident involving the *Topaze*, a frigate captained by Charles Richardson that had originally been a French ship named *l'Étoile*, which had been seized by the British in 1814 and converted into a British vessel. The crew of the *Topaze* peddled opium in Chinese waters in an intrusive and brazen way. When the Chinese official Ruăn Yuán 阮元 sought to intervene, cannon fire from the *Topaze* killed a couple of Chinese men on shore, and Richardson sailed the frigate out to sea.

Ruăn Yuán expelled the British tea traders from Canton and suspended trading with the British in retaliation. British opium traders were willing to put the tea trade in jeopardy in this way because of the enormous profits which they stood to reap from opium smuggling themselves.[17] As a consequence of this setback, the Royal Society of Arts in 1822 offered fifty guineas to whoever could grow and prepare the greatest quantity of China tea in the British West Indies, Cape of Good Hope, New South Wales or the East Indies. However, this prize remained unclaimed.[18]

By the Treaty of London of the 17th of March 1824, Dutch Malacca was exchanged with the British for their colony of Bencoolen (*Bengkulu*) on the southern coast of Sumatra, and Surat was ceded to Britain again. The treaty of 1824 divided the Dutch and English colonies in Asia in a less fragmented fashion, so that India, Ceylon and Malaya were British, and the Dutch East Indies remained under Dutch control, and both nations enjoyed the status of favoured nation in each other's colonies. By 1825, the British tea trade with China was principally financed by Britain's illegal opium trade. Since privately grown opium produced in Malwa had been leaving India via Goa and Damão, in 1830 the East India Company allowed opium from Malwa to go from Bombay to China for a transit fee. This had the effect of forcing the Portuguese in Macau out of the opium trade, although the Portuguese were still able to import opium from Smyrna.

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17 Betty Peh-T'i Wei. Ruan Yuan, 1764–1849: *The Life and Work of a Major Scholar-Official in Nineteenth-Century China before the Opium War.* Hong Kong: Hong Kong University Press.

18 Edward Bramah. 1972. *Tea and Coffee: A Modern View of Three Hundred Years of Tradition.* London: Hutchinson & Company (p. 81).

FIGURE 9.7
Ng⁵ Bing² Gaam³ 伍秉鑑, known to European tea traders as Howqua, the most powerful of the Co-hong merchants at Canton, painted by George Chinnery in 1830

The Path to War

In 1826, a London tea merchant scoffed at foreigners who disdained the pleasures of the English tea table.

> Foreigners may declaim against (what they call) the insipidity of an English tea-table, but with me its comforts are solid, and the remembrance of its pleasures lasting. Uncarpeted rooms and dirty splendour, *eau sucré*, weak wines and painted women, may possess charms for Frenchmen, but give me the tea-table and the charming society it affords, and I shall have nothing to envy that is possessed by others, and nothing to regret on account of peculiar choice.[19]

The English teamonger also complained about the quality of the tea sold in parts of France outside of Paris, where 'no good Black Tea can be obtained; it is generally the worst description of Bohea' and 'the green is generally a yellowish leaf Twankay'.[20] The same writer complained equally about the general quality of tea in England.

> Of the Various Teas found in the Shops in England … It would be difficult to find an article of commerce in this country better capable of being made the means of deceiving the purchaser than Tea, and in doing this the Trade are less to blame than the Public.[21]

19 A Tea Dealer (1826: 87).

20 A Tea Dealer (1826: 34).

21 A Tea Dealer (1826: 35).

Whilst the quality of tea being imported to England at this time was apparently of heterogeneous quality, the East India Company sold their opium to agency houses such as Jardine, Matheson & Co., Apcar and Company and Dent & Co. for the silver which the Company needed to sustain the tea trade.

These opium dealers used new sleek and fast cargo ships called opium clippers to accelerate their trade, and these swift vessels doubled as tea clippers on the return journey from China. In 1834, lord William John Napier belligerently sailed the frigates *Andromache* and *Imogene* to Whampoa in breach of restrictions. Skirmishes led to deaths, but his frigates were locked in, and he returned on a small vessel to his family in Macau, where he began to run a fever and succumbed within a fortnight. At this time, James Matheson, flush with funds from his narcotics trafficking in China, was in London lobbying for military action against China to force the abolition of the Co-hong system and to liberalise his own toxic trade.

That same year, the East India Company lost the monopoly on the opium trade in China, which resulted in opium sales soaring yet again as the United States joined in the illegal drug trade. Britain was not the sole villain, for American traders were responsible for 10 % of the opium being funnelled into China to fuel opium and heroin addiction.[22] American opium traders such as Charles Cabot, John Cushing, John Jacob Astor and Russell & Co. leapt at the opportunity by buying both Turkish and Indian opium to fuel drug addiction in China. By 1838, as much as 1,400 tonnes of opium were flooding the Chinese market. The lucrative drug trade was carried out by the British and the Americans through Parsi middlemen in Bombay and in the Pearl River delta. The Americans were just as imperious and imperialistic in their attitude towards the Chinese people and the Chinese government as the British.

Opium was the most valuable commercial crop in the world, and at one point ⅙ of Britain's national revenue came from the drug trade.[23] It was at this time that new pejorative terms for Occidentals became current in Chinese languages, and old terms shifted somewhat in meaning. The Cantonese term *gwai²lou²* 鬼佬 [kʷɐi̯ ˧˥ lou̯ ˧˥] 'devil man' was introduced, and this word has to this day remained the usual term for Westerners in Hong Kong. In the north, the term *yángguǐzi* 洋鬼子 'foreign devil' came into use.

At the same time, the old Hokkien expression *âng-mn̂g* 紅毛 [aŋ ˨˦ mŋ̍ ˨˦] 'red fur' had started out in the 17th century as an unflattering descriptive designator to denote Dutchmen, particularly in Japan, where the term is pronounced *kōmō* 紅毛 'red fur'. By the outbreak of the First Opium War, the use of derogatory Hokkien epithets such as *âng-mn̂g-kuí* 紅毛鬼 [aŋ ˨˦ mŋ̍ ˨˦ kui ˥˧] 'red-furred devils' and *âng-mn̂g-kâu* 紅毛猴 [aŋ ˨˦ mŋ̍ ˨˦ kaʊ ˨˦] 'red-furred monkeys' became widespread, and the English lexicographer Walter Henry Medhurst recorded in his Hokkien dictionary, compiled at Batavia, that the term *âng-mn̂g* 紅毛 [aŋ ˨˦ mŋ̍ ˨˦] 'red fur' had at the time come to be 'generally applied to the English people'.[24]

The First Opium War

In 1837 and 1838, the correspondence between the presumptuous superintendent of trade, captain Charles Elliot, and the governor of Canton Dèng Tíngzhēn 鄧廷楨 escalated in tone.[25] The Cantonese governor was perceived by the British as complicit in the opium trade, but, if this were

22 Gelber (2004: 101).

23 Frederic Wakeman. 1975. *The Fall of Imperial China*. New York: The Free Press; Gelber (2004: 154 et seq.).

24 Walter Henry Medhurst. 1832. *A Dictionary of the Hok-këèn Dialect of the Chinese language, according to the Reading and Colloquial Idioms: Containing about 12,000 Characters*. Macao: Honourable East India Company's Press (p. 481, col. 1).

25 Anonymous. 1839. *Crisis in the Opium Traffic: Being an Account of the Proceedings of the Chinese Government to Suppress that Trade, with the Notices, Edict, &c., relating thereto*. China: Office of the Chinese Repository.

FIGURE 9.8
Lîm Tsiktshî 林則徐, a native of Hoksieu 福州, who confiscated over 1,200 tonnes of illegal opium, mixed it with lime and salt and then had it burnt in June 1839

so, then this hardening of tone on Dèng's part clearly evinced a change of heart. In 1838, the governor seized opium belonging to the English drug dealer James Innes and publicly executed some petty Chinese opium dealers in Canton, and these events sparked a riot. Dèng appealed to the citizens of Canton to help stop the illegal ferrying of opium from Lintin to Whampoa. The mood was belligerent amongst the Britons in Macau, but perhaps of greater importance was that James Matheson had inspired a bellicose attitude in London.

At this time, Lîm Tsiktshî 林則徐, a native of Hoksieu 福州 (*hok-tsiu* [hɔk˨ tɕiu˦]) or 'Foochow' (Mandarin *fúzhōu*), made his appearance, a newly appointed official of the eighth Manchu emperor Dàoguāng 道光. On the 3rd of June 1839, Lîm confiscated over 1,200 tonnes of illegal opium, mixed it with lime and salt and then had it burnt. Elliot was compelled to hand over hoards of illegal opium that had been hidden by British traders in clandestine godowns, for which he was resented by the British opium traders, since the exchequer later proved unable to compensate them for their losses. The British left Macau and ensconced themselves on ships in the archipelago of the *Ladrones* at the mouth of the Pearl river and also in what is today Hong Kong harbour.

Thomas Macauley proposed war against China, and in response the then thirty-year-old William Gladstone addressed the House of Commons on the 8th of April 1840, saying 'a war more unjust in its origin,—a war more calculated, in its progress, to cover this country with a permanent disgrace,—I do not know, and have not read of'.[26] With the benefit of hindsight, Okakura would, well over half a century later, juxtapose Occidental anxieties about the 'Yellow Peril' to the historical 'realities of the White Disaster' for peoples of the East.[27]

In reaction to the seizure of their illegal opium and the disruption of their drug smuggling, Britain retaliated from November 1840 with gunfire, sinking Chinese junks and attacking the Taku forts

26 John Henry Barlow, ed. 1840. *The Mirror of Parliament for the Third Session of the Fourteenth Parliament of Great Britain and Ireland in the Third and Fourth Year of the Reign of Queen Victoria* (Session 1840, Volume III). London: Longman, Orme, Brown, Green & Longmans (p. 2460).

27 Okakura Kakuzō. 1905. *The Awakening of Japan*. New York: The Century Co. (p. 95 et seq.).

FIGURE 9.9 The East India Company iron steam ship *Nemesis* destroying Chinese war junks in Anson's Bay on the 7th of January 1841, as depicted by Edward Duncan

(Dàgū 大沽) in the Peiho estuary near Tiānjīn 天津. On the 20th of January 1841, the British occupied Hong Kong island (Cantonese *hoeng*^{1}*gong*^{2} 香港 [hœːŋ ˥ kɔːŋ ˧˥] 'fragrant harbour'). At this point, the British demanded that the Chinese pay an indemnity of six million dollars for the loss in opium, cede Hong Kong island to Britain, open the ports of Canton and Whampoa within ten days and henceforth conduct official correspondence on the basis of equality without requiring the customary formulaic deference on the part of the British toward the imperial government of China. The war continued. The British sailed up the Pearl River and attacked Whampoa and Canton. Then, after an unsuccessful assault on Keelung (*jīlóng* 基隆) in Formosa in September 1841, the following year the British sailed up the Yangtze and occupied Shanghai and Nanking, and also attacked Ningpo and Formosa again at Tamsui (*dànshuǐ* 淡水).

The First Opium War (*gerebatur* 1839–1842) was waged by England against China in an attempt to solve the British trade deficit problem. Essentially, China sold tea as well as the porcelain vessels to drink it from, and the British purchased these commodities with silver. In order to have enough silver, the British sold opium to China, causing rampant addiction and countless derelict lives. The financial incentive for the British to go to war was overwhelming. Between 1700 and 1823, the English alone had shipped 53,985,000 tael or roughly 20,000 tonnes of silver to China just to pay for tea. In consequence of the British trade strategy, an estimated 1% of the Chinese population, comprising millions of people, were addicted to opium by 1838. Between 1790 and 1838, opium valued at an estimated 239 million tael, i.e. 90,000 tonnes worth, of silver had been smuggled into China.

In the end, the Manchu government in Peking was compelled to sign the Treaty of Nanking

FIGURE 9.10 The sovereignty over Hong Kong, which had been ceded by China under the Qīng dynasty to Britain 'in perpetuity' on the 29th of August 1842, was transferred to the People's Republic of China on the 1st of July 1997.

on the 29th of August 1842, which stipulated that China cede Hong Kong to Britain in perpetuity, and that China pay six million silver dollars as an indemnification for the illegal opium which it had confiscated from British drug smugglers, three million silver dollars for debts ostensibly owed by Co-hong merchants to British traders, twelve million silver dollars as war reparations, and 5% annual interest on all amounts paid after the scheduled instalments over a three-year period stipulated by provision of the treaty. Hong Kong is a product of the Opium Wars, and the Opium Wars are an outcome of the British wanting to have tea but being unable to pay for this cherished commodity without resorting to the peddling of narcotics on the grandest scale ever seen in history.

Britain furthermore coerced China into signing the Treaty of the Bogue in October 1843, which granted Britons the right to reside at the ports of Canton 廣州, Amoy 廈門, Hoksieu 福州, Ningpo 寧波 and Shanghai 上海, which had been compelled to open to European trade. Moreover, British nationals could reside in these cities subject to their own laws. Not only were British laws extraterritorially applied, the United States gained extraterritorial jurisdiction over its citizens and cantonments on Chinese soil by the Treaty of Wanghia 望廈 (Mandarin *wàngxià*) on the 3rd of July 1844, and France was likewise granted extraterritoriality in its own cantonments in China by the Treaty of Whampoa on the 24th of October 1844.

The British employed double standards in the context of the tea trade to Britain and the opium trade to China. In 1845, just three years after the conclusion of the First Opium War, a committee of the House of Commons convened to inquire into the causes of 'the most infamous practice of smuggling'.[28] Whilst anxiety about tea prompted committees to convene in Westminster, in 1845 an estimated 48,000 chests of opium were smuggled by the British into China without any qualms of conscience inducing the convening of parlia-

28 Shore (1892: 84).

mentary committees in Westminster. In 1847, Britain smuggled over 60,000 chests of narcotics into China.

Tea Plantations in the Dutch East Indies

After the deleterious effects of the French revolution and the Napoleonic wars on the Netherlands, not to mention the Dutch tea trade, the British orchestrated the establishment of a monarchy in the Netherlands in 1813 as a successor to the United Provinces. On the 16th of March 1815, the former Spanish or Austrian Netherlands were reunited with the northern Netherlands to form *het Vereenigde Koninkrijk der Nederlanden* (1815–1839).[29] The United Kingdom of the Netherlands was not a harmonious union, however, for the southern Netherlands and the Dutch republic in the north had ever since the 1560s undergone increasingly divergent cultural and historical developments.

Consequently, this union was soon brought to an end in October 1830, when Belgium declared itself a sovereign state independent of the northern Netherlands and the following year installed Leopold I of the house of Sachsen-Coburg and Gotha as their first monarch. From the 31st of May 1815, the United Kingdom of the Netherlands also included the Duchy of Luxemburg, which was elevated to the status of Grand Duchy or *Groothertogdom*. When the Kingdom of Belgium seceded in 1830, the Netherlands and the Grand Duchy continued to form a united polity until 1839. This course of events essentially left Luxemburg with the Dutch flag, for they adopted no new flag in 1839, but instead modified the cobalt blue colour of the bottom stripe of the flag belatedly in 1972 to a lighter shade of blue.

Meanwhile, however, Willem I, son of the *stadthouder* Willem V, reigned as the first king of the United Kingdom. One of the first acts of the new king was to establish the *Maatschappij voor den Chineeschen Theehandel* 'The Company for the Chinese Tea Trade'. As a protectionist measure in tandem with this undertaking, the duty on tea in 1817 was 100%, being the same as the sales cost. The would-be monopoly floundered almost at once, however, because the king was essentially the only real investor, and the venture was abolished in 1817.[30] So, in 1818, the States General of the Netherlands determined that the import duty on tea into Holland would not exceed 0.5%, and re-exporting the tea would incur only a 0.2% tax.

Then, seven years later, in 1824, king Willem I established the *Nederlandsche Handel-Maatschappij* in an attempt to regain the lost Dutch position in world trade after the devastating Napoleonic wars. The colonial excesses of this new company and the exploitative system of taxation called the *cultuurstelsel*, introduced in the Dutch East Indies in 1830 by the governor general Johannes van den Bosch (*obtinebat* 1830–1833), came to bear the brunt of the criticism of Eduard Douwes Dekker in his famous 1860 novel *Max Havelaar, of de koffijveilingen der Nederlandsche Handel-Maatschappij* 'Max Havelaar, or the coffee auctions of the Dutch Trading Company'.

Douwes Dekker wrote the novel under the Latin pseudonym *Multatuli*, meaning 'I have forborne much'. His work was viewed as a subversive piece of writing by the Dutch government. To Douwes Dekker's dismay, the editor Jacob van Lennep had rendered the Indonesian toponyms unrecognisable, and the Amsterdam publisher Jacobus de Ruijter made the book very expensive in Europe and hardly made the book available at all in the Dutch East Indies. In 1890, Ernest François Eugène Douwes Dekker, the grandchild of Douwes Dek-

29 Fifteen years earlier, in 1800, the Acts of Union had united the Kingdom of Great Britain and the Kingdom of Ireland to create the United Kingdom of Great Britain and Ireland from the 1st of January 1801.

30 Willem Maurits Frederik Mansvelt. 1924. *Geschiedenis van de Nederlandsche Handel-maatschappij*. Haarlem: Johannes Enschedé en Zonen (pp. 134–136).

FIGURE 9.11
Eduard Douwes Dekker, alias Multatuli
PHOTOGRAPHED BY CÉSAR MITKIEWICZ IN 1864

ker's brother, fought in South Africa in the Second Boer War (*gerebatur* 1899–1902) against British injustices perpetrated against the Boer population and in 1903 returned to the Dutch East Indies, where he became a prominent independence activist. In the assessment of Pramoedya Ananta Toer, Multatuli's book against the exploitative extraterritorial taxation by the Dutch government in the East Indies led directly to the Indonesian war of independence, which sparked the call to decolonisation elsewhere in Asia as well as in Africa and so catalysed the end of European imperial domination globally.[31]

The *Nederlandsche Handel-Maatschappij* 'Dutch Trading Company' was a private company with multiple intimate ties to the king and the Dutch government. Its stated aim at the time of its establishment mentioned the tea trade with China by name:

> De Maatschappij zal vooral, en in de eerste plaats, daartoe dienstig maken de wederkeerige betrekking van het moederland tot hare Oost-Indische bezittingen en de bevestiging en uitbreiding van den handel en de vaart op dezelve, alsmede de vaart en handel op alle andere gedeelten van Indiën en omliggende plaatsen, den theehandel op China en de visscherijen in de Indische zeeën.[32]
>
> The Company shall first and foremost advance the reciprocal relations of the motherland to her East Indian possessions, work toward securing and expanding trade and shipping to these possessions as well as to other part of the Indies and surrounding regions, and furthering the tea trade with China and the fisheries in the Indian seas.

The tea trade with Canton resumed in 1824. In 1823, Philipp von Siebold, the agent of the Dutch govern-

31 Pramoedya Ananta Toer. 1999. 'Best story: The book that killed colonialism', *The New York Times, Magazine*, 18 April 1999.

32 This anacoluthon is quoted in the supplement to Mansvelt (1924).

ment at Desima, had sent tea seeds from Japan to Batavia, but the seeds arrived in an unusable condition.

In 1745, Buitenzorg was established as a country residence in the hills by governor general Gustaaf Willem van Imhoff, and this colonial settlement eventually grew into a town, which after the establishment of the Republic of Indonesia in 1945 was given the Sundanese name of Bogor. In 1817, the famous botanical garden at Buitenzorg was established. In sequel to the spoilt tea seeds that had reached Batavia in 1823, the head of the botanical garden at Buitenzorg ordered tea seeds and tea seedlings again from von Siebold in 1824. The first intact shipment of tea seedlings arrived in Java in 1826, and von Siebold continued to deliver Japanese tea plants annually for a number of years thereafter, not just for the tea plantations in Java, but also for the botanical gardens in the Netherlands.

The seeds arrived in 1826, just as the *burggraaf* or viscount Leonard Pierre Joseph du Bus de Gisignies had been appointed governor general of the Dutch East Indies. The tea seeds were sown at higher elevations at several selected sites in western Java. These fledgling tea gardens in the East Indies were established at Buitenzorg, at Wanayasa and on the slopes of the volcano Tangkuban Prahu north of Bandung, at Cisurupan, in Garut and on the slopes of the volcano Galunggung southeast of Bandung, at Jatinangor east of Bandung, in the hills under the volcano Gunung Salak, Karawang on the slopes of the Gede Pangrango volcano and in the shadow of the Raung volcano, around Cirebon.[33] In addition to these government plantations, private tea gardens were established at this time at Carenang, Pekalongan, Tegal, Semarang, Japara, Surabaya, Banyumas, Bagelen and Madiun.

In 1827, Jacob Izaac Levien Jacobson,[34] son of a tea merchant in Rotterdam, arrived in Batavia as a tea taster for the Dutch Trading Company. Between 1828 and 1833, Levien Jacobson made six trips to China to bring back tea seeds, tea plants, skilled Chinese workmen and materials in order to render viable the tea plantations at Bogor, Bandung and elsewhere in western Java so that they could be taken over by private companies. The Chinese jealously guarded the secrets of tea preparation from Europeans, as Valentyn already noted in 1712.

> De voortteeling van dien is nog geen eeuw by ons bekend geweeft, alzoo de Tsjineezen die met reden voor ons op Batavia verborgen hielden[35]

> Its propagation has been known to us for less than a century, for the Chinese in Batavia kept this concealed from us with good reason.

Once the Chinese had even misleadingly confabulated a story that the taste of tea was derived from a particular herb that was required as an additive.[36] When Levien Jacobson recruited tea planters in China, nobody appeared to take objection. However, when he attempted to recruit tea curers to teach potential tea manufacturers in the Dutch East Indies how to process tea properly, Levien Jacobson was unable to engage more than a dozen men. Soon thereafter each of these newly recruited Chinese tea curers was mysteriously but expediently murdered.[37]

What had been understood for a long time is that the treatment and processing of tea was of crucial importance to determining the quality. As early as 1712, Valentyn had described that the man-

33 Cohen Stuart (1919: 196).

34 In Batavia in 1838, Levien Jacobson changed his Jewish given names to the Christian names Jacobus Isidorus Lodewijk. His original names were ascertained by historian Harry Knipschild on the basis of research conducted in the Rotterdam archives, published on his website on 15 January 1999 ⟨http://www.harryknipschild.nl⟩. Levien Jacobson usually abridged his double surname by publishing as J.I.L.L. Jacobson, thereby concealing the conspicuously Jewish portion of the surname.

35 Valentyn (1726, *Derde Boek*, blz. 14).

36 Teles e Cunha (2002: 294).

37 Jacobus Isidorus Lodewijk Levien Jacobson. 1843. *Handboek voor de kultuur en fabrikatie van thee* (three volumes). Batavia: ter Lands-Drukkerij; 1845. *Handboek voor het sorteren en afpakken van thee*. Batavia: ter Lands-Drukkerij.

ner of processing the leaves distinguished superior grade tea for the nobility from the coarse grade destined for the masses.

> Daar is een groot onderfcheid tuffchen de Theebladen, die de Boeren voor 't gemeen, of de Hovelingen voor zich, plukken; want daar de eerfte de bladen zonder onderfcheid verzamelen, en die maar op de grond werpen om winddroog te werden, zyn die gene, die de bladen voor de Hovelingen vergaderen, gewoon alleen de kragtigfte, zuiverfte, en volmaakfte blaadjens, en van de fynfte en teederfte takjens de grootfte volwaffene en friffte bladen af te plukken, en dezelve dan in de fchaduwe wind-droog te laten werden, 't welk, om de kragt van dit kruid wel te bewaren, zeer veel van de eerste wyze van behandeling verfchild.[38]

> There is a large distinction between the tea leaves which the farmers pick for the common people and that which the courtiers have picked for themselves, for the former gather the leaves indiscriminately and throw them on the ground, where they are dried by exposure to the air, whereas those who gather the leaves for the court only selectively pick the most potent, pure and perfect tiny leaves, plucking the largest mature and the freshest leaves from the finest and most tender twigs, then letting these dry in the shade, which differs greatly from the former method for preserving the potency of this herb.

After tea seeds from Japan had been planted in 1826, Levien Jacobson's entrepreneurial zeal led to the first Javanese tea factory in 1830.

The first two chests of Javanese tea were brought to Europe by the viscount du Bus de Gisignies, governor general of the Dutch East Indies. When he presented these chests publicly at the Dutch capital in Brussels, he reported that the tea *y ont fait l'objet de l'étonnement des connaisseurs* 'became the object of astonishment of the connoisseurs'. King Willem I was presented a chest of Javanese tea in 1831. By 1834 the governmental tea producers were completely confident that the quality of Javanese tea was not below that of Chinese tea. In 1835 the first auction of Javanese tea took place at the *Brakke Grond* in Amsterdam.[39] By the end of 1835, one million tea plants were under cultivation in western Java, and an annual average of 100,000 kg of tea were produced in Java between 1839 and 1844.

In 1842, Levien Jacobson was knighted in the order of the Dutch Lion for his services to the tea industry in the Dutch East Indies. In 1843, he managed to manufacture tea tiles, something to which he was exposed as a child in his father's tea shop in Rotterdam when dealing with tea that went to Russia. Levien Jacobson started producing tea tiles commercially from 1845, from which time they were marketed in Holland. He returned to the Netherlands in 1848.[40]

In the 1830s, du Bus de Gisignies had advocated private plantations, whereas van den Bosch had advocated government plantations. After 1835, private plantations had increased output and quality, and the government plantations ran up an ever expanding loss. Privatisation of the various government plantations began in 1862 and was completed by 1865. Tea planters in Java had to compete against the coffee growers on the island both for land and for market share. Tea planters also struggled with low prices in Europe because of a glut on the market. Despite the competition newly emerging in British India and Ceylon, the period from 1875 to 1890 were the fat and easy years for the Javanese tea industry.[41]

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38 Valentyn (1726, *Derde Boek*, blz. 16).

39 van der Chijs (1903: 440).

40 van der Chijs (1903: 437).

41 Ch.-J. Bernard. 1924a. 'De geschiedenis van de theecultuur in Nederlandsch-Indië', blz. 1–18 in Cohen Stuart (op.cit.).

FIGURE 9.12
The British Residency at Kathmandu, aquarelle by Henry Ambrose Oldfield, ca. 1850

Botanical Confusion

The Dutch established their first *factorij* at Hougli or Hooghly in 1634, two years after the Portuguese had abandoned their old trading post there, which they had founded in 1579 and which had given rise to the bustling town. In 1690, Job Charnock of the English East India Company set up a trading post about 40 km downstream from the Dutch *factorij*, and this English trading post would grow into the city of Calcutta. In 1787, colonel Robert Kyd founded the Calcutta Botanic Garden, and in 1790 he planted the first living tea tree there.[42] Later it appears that this tea tree was forgotten, just like the tea trees that had been planted by George Meister at Batavia in 1687 and in the Dutch East India Company garden at the Cape of Good Hope in 1688.

In 1792, Joseph Banks of the Royal Society was a member of George Macartney's two-year embassy to China. Together with George Staunton, Banks authored the official account of the British mission to the Chinese Imperial court, and Banks brought back tea seeds and plants for the botanical garden in Calcutta. In 1815, colonel Robert James Latter reported that the Singpho tribes of Assam gathered a species of wild tea, which they ate with oil and garlic after the Burmese fashion, and that they also made a drink from the same plant.[43]

In 1817, the first British resident at Kathmandu, Edward Gardner (*obtinebat* 1816–1829), sent a tea plant to Calcutta which had reportedly been growing in a palace garden in the Kathmandu valley. With the clear hindsight of history, colonel Latter's report renders somewhat ludicrous the controversy which would later be waged in 1841 within the Agricultural and Horticultural Society of India between Charles Alexander Bruce and Andrew Charlton regarding the question as to who had been the first to discover that tea grew in Assam.

42 Cohen Stuart (1919: 195).

43 Robert James Latter, who later retired in the senior rank of general, was the younger brother of captain Barré Richard William Latter, who was involved in negotiations of the Treaty of Segauli (*sugaulī* सुगौली), which in 1816 defined the boundaries of the modern state of Nepal, as well as the Treaty of Titalia (*tetuliyā* তেতুলিয়া) of 1817 between the British East India Company with the Kingdom of Sikkim (Editor of the Royal Military Calendar. 1824. *The East India Calendar, Containing the Services of General and Field Officers of the Indian Army*. London: Kingsbury, Parbury and Allen, Vol. II, pp. 347–348; John Bray. 2012. 'Captain Barré Latter and British Engagement with Sikkim', pp. 77–93 in Anna Balıckı-Denjongpa and Alex McKay, eds., *Buddhist Himalaya: Studies in Religion, History and Culture. Volume II: The Sikkim Papers*. Gangtok: Namgyal Institute of Tibetology).

After completing his studies in Copenhagen, Nathaniel Wallich in 1807, at the age of nineteen, sailed to the Danish colony of Frederiksnagore in Bengal, where he was appointed surgeon. Just months later, Frederiksnagore was seized by the British East India Company when the Danes allied themselves with Napoléon. The Danes were incarcerated, but Wallich was released in 1809 on account of his scholarship. The British abandoned the name Frederiksnagore and began to use the name Serampore (Bengali *Śrīrāmapūra* শ্রীরামপুর). In 1814, Wallich joined the service of the British East India Company, and in 1817 he succeeded Dr. Francis Buchanan as head of the Calcutta Botanic Garden, which covered 300 acres below the city of Calcutta.[44]

In 1818, Wallich provided an account of the tea plant growing in Nepal which had been sent to him by Gardner. He believed, however, that the newly discovered *'Napal Camellia'* was a distinct species that was a close relative of 'the Tea-ſhrub'. He named the new species *Camellia kissi* after what he believed was the Newar name for the tree, 'the *Newar* name being *Kiſſi* or *Kiſſi-Soah*'. It is difficult today to ascertain what Edward Gardner heard in Newar as 'Kiſſi-Soah'. The Newar word *kisi* किसि denotes 'elephant'. There exists a tree species known in Newar by the name *kisi byāḥ* किसि-ब्याः 'elephant bael', which is the wood apple tree *Feronia elephantum*, also known as *Limonia acidissima*. The second element in this compound, *byāḥ* ब्याः, when occurring by itself, denotes the famous *bel* or bael tree *Aegle marmelos* and its fruit, which plays an important role in Newar ritual culture.

It is conceivable that Edward Gardner had heard a nonce formation in Kathmandu or a now defunct local Newar term for the tea tree that happened to be a compound word constructed in a fashion analogous to the Newar term for *Limonia acidissima*. Perhaps this lexicographically undocumented and otherwise unattested word was some form like *kisi svāṁ* किसी-स्वां, which could have meant 'elephant flower'. However, it is also conceivable that the British resident had just noted down what had been a misinterpretation on his part of some Newar utterance such as *kisi svaṁ* किसि-स्वं 'trunk of an elephant' or *kisi sau* किसि-सौ 'elephant dung' or something else altogether.[45]

Some of Gardner's letters to Wallich reportedly survive today in the Calcutta herbarium, and this correspondence could be profitably studied in this regard. Dr. Wallich also observed that the plant specimens collected in 1814 by Mr. M.R. Smith, the 'indefatigable assistant' to Dr. Francis Buchanan, which were reportedly known as *chamegota* to 'the natives inhabiting the mountainous countries bordering on Sylhet', represented the same species.[46] It is tempting to identify the first part of the utterance heard by Buchanan's ardent assistant with Atong *cha* [tɕa] followed by the Atong genitive suffix ⟨-mi⟩.[47] At any rate, what Dr. Wallich only reluctantly came to realise sixteen years later, in 1834, was that the plant found growing in Nepal in 1816 and

44 He was actually known as Buchanan, but in later life Francis Buchanan changed his name to Francis Hamilton in order to inherit his mother's estates. Historical sources refer to the man in retrospect as Francis Buchanan-Hamilton.

45 Iśvarānanda Śreṣṭhācārya, ed. 2054 (i.e. 1997–1998 AD). *Nevār-Nepālī-Aṅgrejī Śabdakoś*. Kāṭhmāḍāũ: Nepāl Rājakīya Prajñā-Pratiṣṭhān; Thakur Lala Manandhar and Anne Vergati. 1986. *Newari-English Dictionary: Modern Language of the Kathmandu Valley*. Delhi: Agam Kala Prakashan.

46 Nathaniel Wallich. 1820. 'An account of a new ſpecies of a *Camellia* growing wild at Napal, read December 12, 1818', *Asiatick Researches or Transactions of the Society, instituted in Bengal for Enquiring into the History and Antiquities, the Arts, Sciences and Literature of Asia*, XII (XII): 428–432.

47 However, the last part of the utterance remains difficult to identify (cf. Egbert Joost Seino Clifford Kocq van Breugel. 2014. *A Grammar of Atong*. Leiden: Brill; Egbert Joost Seino Clifford Kocq van Breugel. 2015. *Atong—English Dictionary* (second edition, version of 27 May 2016) [The first edition was published in 2009 at Tura by the Tura Book Room]; Marcus C. Mason. 1905. *English-Garo Dictionary by the Members of the Garo Mission of the American Baptist Missionary Union at Tura*. Shillong: Assam Secretariat Printing Office; Thatil Umbavu Varghese Joseph. 2007. *Rabha*. Leiden: Brill).

FIGURE 9.13
Nathaniel Wallich, as portrayed in a lithograph by Thomas Herbert Maguire in 1849

on the southern slopes of the Meghālaya in 1814 was, in fact, also tea.[48]

The Burmese invaded Assam in January 1817, February 1819 and February 1821, and by 1822 much of eastern Assam was under Burmese control. The Burmese invasion of the Arracan and then the Chittagong in 1823 led to the First Anglo-Burmese War (*gerebatur* 1824–1826). After the British victory, northeastern India became British territory with the signing of the Treaty of Yandabo (*jandəbo* ရန္တပို) on the 24th of February 1826. The British established military posts and in 1833 reinstalled the deposed king Purandar Siṃha as a puppet ruler, a ceremonial post which he held for five years as the last monarch of the Ahom dynasty. Before the British expelled the Burmese from Assam, their own presence in northeastern India had been precarious. Nonetheless, in 1819, David Scott, agent to the governor general in Assam, had introduced some of the Chinese tea plants from the Botanic Garden in Calcutta to 'the Hills to the Eastward of the Berhampooter', where they promptly withered and died.

Undaunted, Scott ordered more tea bushes from Dr. Nathaniel Wallich, head botanist in Calcutta, in 1824. In 1823, the Scottish trader major Robert Bruce journeyed to upper Assam, where Manirām Datta Baruvā মণিৰাম দত্ত বৰুৱা or 'Dutta Baruah', the *devān* 'counsellor' at the Ahom royal court in Rang-

48 Together the Garo Hills in the west and the Khasi and Jaintia Hills in the east comprise a single massif that was once referred to by geologists and geographers as the Assam Plateau or the Shillong Plateau. After heading the Department of Geology and Geography at the University of Rangoon for four years, Shiba Prasad Chatterjee শিব প্রসাদ চ্যাটার্জী left for Europe in 1932 to conduct further studies at the Sorbonne under the direction of Emmanuel de Martonne. In his 1936 doctoral dissertation, he introduced the new apt Sanskritic coinage *meghālaya* 'abode of clouds' to denote these highlands (Shiba Prasad Chatterjee. 1936. *Le plateau de Meghalaya (Garo-Khasi-Jaintia): Étude géographique d'une région naturelle de l'Inde*. Paris: Les Presses Modernes). In 1972, the Meghālaya was separated administratively from the state of Assam to form a new Indian state, as were Arunachal Pradesh, Manipur, Tripura and Mizoram. Arunachal Pradesh had previously been administered as the North-East Frontier Agency (NEFA), whilst Nagaland had already been split off from Assam in 1963.

pur, put him in touch with the *gam* of Bisa, a chieftain of the Singpho tribe, from whom he learnt that tea was native to Assam. After Robert Bruce had made an arrangement with the Singpho chief for the supply of tea plants and tea leaves, his younger brother, Charles Alexander Bruce, arrived at Sadiya as a gunboat commander for the British East India Company just as the First Anglo-Burmese War was breaking out.

Robert Bruce died in 1824, and the tea consignments were therefore sent by his younger brother Charles to David Scott, who planted them in his own garden, and to Dr. Nathaniel Wallich, the Danish botanist heading the Botanic Garden at Calcutta. However, Dr. Wallich was not convinced that the leaves and triangular seeds which he had received were tea. Instead he rejected them as the distinct species of *Camellia* which he had previously discovered and named *Camellia kissi*. Although Wallich remained in the dark, there were others who knew that tea grew in northeastern India.

In 1831, lieutenant Andrew Charlton of the Assam Light Infantry found tea growing in eastern Assam in the hill tracts around Sadiya (Assamese *sadiyā* শদিয়া [xɔdija]). He had learnt to recognise tea trees during his sojourn in the Dutch East Indies. He reported that the Singphos and Khamti peoples of upper Assam 'are in the habit of drinking an infusion of the leaves', which they boiled and dried in the sun. Charlton sent four young tea trees to Dr. John Tytler in Calcutta, who planted them in the Botanic Garden, where they withered and died before they could be botanically investigated.[49]

Tea Plantations in British India

In emulation of the older Dutch East India monopoly on tea in the former Dutch republic, the rule—as long as the monopoly of the British East India Company lasted—was that every chest of tea was to be auctioned at the East India House in London. Yet in 1833, the Crown had assented to the Government of India Act, a high-minded piece of *laissez-faire* legislation that abolished the monopolies of the East India Company as the sole buyer and distributor of tea and divested the company of its commercial functions, although the company kept an agent in Canton until 1840. In 1834, the British East India Company's monopoly of the Chinese trade came to an end, and tea auctions ceased to be held in the grand East India House on the corner of Leadenhall Street and Lime Street.

Although iconic in the minds of some English style tea drinkers, London's Mincing Lane only came to be associated with tea tasting after the tea auctions were transferred there on the 20th of November 1834.[50] Tea was famously auctioned by the candle, which meant that bidding was closed when the flame of a short candle extinguished itself so that nobody could know precisely at which moment the bidding would end. The prominent role of Mincing Lane in English tea tasting ended in 1971, when most of the tea auctions and tea trade offices moved to Sir John Lyon House in High Timber Street.[51] The noisily slurping and theatrical manner of tea tasting from the same style of white teacups, once typical of Mincing Lane, is now mimicked in many places around the world where tea of this genre is manufactured.

On the 1st of February 1834, five months after the Government of India Act had opened up an era of *laissez-faire* tea trading, lord William Bentinck, the governor general of India, instituted a tea committee to investigate the feasibility of producing tea in India. The committee consisted of three English merchants from Calcutta, seven civil servants in the employ of the British East India Company, two Indians and Dr. Nathaniel Wallich of the Botanic Garden at Calcutta. After their first meeting on the 13th of February 1834, the committee secretary, George James Gordon of Mackintosh & Company, wrote a pessimistic piece about the unlikelihood of their ever meeting with success

49 Griffiths (1967: 33–49).

50 Forrest (1973: 102).

51 Forrest (1985: 123–124).

in the unsuitable habitats of northeastern India and the eastern Himalayas. Several months later, Gordon embarked on the opium clipper *Water Witch* to fetch both Chinese tea plants and qualified Chinese tea manufacturing personnel.

Meanwhile in India, as the news of the freshly instituted Tea Committee spread, both captain Francis Jenkins and lieutenant Andrew Charlton approached the committee. Jenkins reported from Jorhat that tea trees 'are found in every part of this hill country' and that 'the tea plant is, as I am informed, undoubtedly indigenous'. Charlton, who had already sent four tea trees to Calcutta in vain three years earlier, wrote from Sadiya that tea …

> … grows wild everywhere, here and there, all the way from this place, about a month's journey to the Chinese province of Yunnan, where I am told it is extensively cultivated. One or two people from that province have assured me, that the tea grown there exactly resembles the species that we have here, so I think there can be no longer any doubt of its being *bona fide* tea.

Charlton sent tea seed pods back to Calcutta with his report, and this time the Danish botanist Wallich wrote: 'we are now enabled to state, with certainty, that not only is it a genuine tea, but that no doubt can be entertained of its being the identical tea of China'. Naturally, there was no mention of Wallich's having misidentified the tea pods sent by Charles Bruce ten years beforehand and his earlier dismissal of the idea that tea grew wild in Assam at all. Instead, on Christmas Eve 1834, the Tea Committee announced that 'the tea shrub is beyond all doubt indigenous to Upper Assam', and they credited Jenkins and Charlton with its discovery, which, they wrote, was 'by far the most important and valuable that has ever been made on matters connected with the agricultural and commercial resources of the empire'.

On the 29th of August 1835, an expedition comprising Dr. Nathaniel Wallich, the botanist John McClelland and the geologist William Griffith left Calcutta for Assam in quest of the most promising sites to cultivate tea. When they arrived in Sadiya in January 1836, they were joined by Charles Bruce. From there they proceeded on elephant back and on foot deep into Singpho territory and observed how the Singpho made pickled tea from young tea leaves. They also learnt that tea produced on the frontier between the Singpho lands and China was said to be highly prized by the Chinese themselves. Dr. Wallich enthusiastically proposed setting up a large number of tea plantations in the Singpho forest areas. There they met the 'Burra-Senaputtee' (*baḍā senāpati* बडा सेनापति 'big general') of the Singpho at Tingrei, who showed them that the Singpho plucked only the young leaves to manufacture their pickled tea known in Jinghpaw as $p^{h}a\text{ʔ}^{31}lap^{31}$.

In 1835, George Gordon returned to Calcutta on the British opium clipper *Water Witch* with three loads comprising 80,000 tea seeds from China, one load from the Bohea hills of Fukien and two from Canton. When Gordon was still in Macau, he had learnt about the foiled attempts of the Dutch to recruit tea curers. Gordon found out that the mandarins had threatened to extort money and inflict other forms of suffering on the families of any tea curer who had the temerity to leave the Middle Kingdom. At the same time that Gordon was recalled to India, he was informed by the Tea Committee of captain Jenkins' plan to recruit tea curers not from southern China, but directly from Yúnnán. When Gordon reached Calcutta, however, he found out that the Tea Committee had changed their minds, and he was sent back to China to find qualified tea cultivators, manufacturers and curers despite the difficulties.

Meanwhile, Gordon's Chinese tea seeds were planted in the Botanic Garden in Calcutta, in Assam, Mussoorie and Madras. A fair number of seedlings survived, but most did poorly and died. The Chinese tea seed sent to the Nilgiris was planted at Ketti in 1835 by the French botanist Georges-Samuel Perrottet.[52] The following year,

52 The assistant surgeon Christie had actually ordered the tea seeds, but he had died before they arrived.

the tea garden buildings at Ketti were lent to the governor of Pondicherry and promptly neglected. When the governor left in 1838, Perrottet ended up having to rescue the nine surviving tea plants, some of which had been buried by the governor's ignorant gardeners. Elsewhere in southern India, tea was also planted at Coorg, Mysore and Madras at this time, but this seed did not fare well,[53] and tea gardens at Coorg were only taken up in earnest from 1914. Tea was first planted at Wayanad in the 1870s, and the first tea plantation was set up at Perindotti estate in southern Wayanad by Parry and Company in 1892.[54]

When George Gordon returned to China in 1835, he recruited three men who were sent out to assist Bruce in 1836, but two of them quickly died. In 1838, he brought over five more. Years later, it turned out that many of these Chinese tea experts whom the Indian government had recruited were carpenters or shoemakers and had never seen a tea plant in their lives. Then with the assistance of a certain Dr. Lumqua, who spoke both Cantonese and English, the Indian government in 1840 recruited over three dozen men from the Chinese community at Calcutta, evidently upon the remarkable assumption that mere ethnic affinity conferred expertise in tea curing techniques. Dr. Lumqua, who was naturally quite aware of the absurdity of the situation, proposed that genuine Chinese tea curers be summoned and marched overland from Yúnnán over to Assam. Dr. Lumqua died of fever in August that year, and his proposal was therefore not followed up.[55]

Charles Alexander Bruce was appointed superintendent of tea forests in May 1836 and began clearing forest to set up tea nurseries in wooded areas surrounding Sadiya. The scale of these operations remained limited because the goal of the government of India was, as Jenkins wrote, merely to 'show the feasibility of producing a marketable tea within our own provinces … the sooner they can abandon the proposed tea plantation to private enterprise the better'. The tea trees planted near the Brahmaputra began to die when their tap roots hit sand, but the introduced Chinese tea plants in Assam and the sub-Himalayas thrived. In addition to the introduced *sinensis* variety, many of the indigenous *assamica* variety were impregnated with the Chinese pollen.

In 1837, a dispute arose between advocates of the native Assamese tea shrub, which first and foremost included Dr. Wallich, who for years had denied their very existence, and the advocates of the Chinese seed, Dr. William Griffith and the geologist John McClelland. Throughout this time, Wallich and Griffith indulged a vehement animosity towards each other.[56] Despite the dying off of many of the *sinensis* cultivar seedlings, advocates of Chinese seed won the day because of the convincing prose of William Griffith, who also showed great professional jealousy of Charles Bruce in Sadiya, coveting his position and writing about the man in the most condescending tones.[57] The surviving *sinensis* cultivar shrubs were transplanted to Chabwa (Assamese *cābuvā* চাবুৱা [sabuwa]) in today's Dibrugarh district, roughly half way between the tiny town of Tingrei (Assamese *ṭiṅrāi* টিঙৰাই [tiŋɹai]) and today's Muttuck tea estate (Assamese *maṭak* মটক [mɔtɔk]).

Bruce sent the first batch of eight chests of Assamese tea to London in 1838, and on the 10th of January 1839 the first dull black pekoe from Assam was auctioned at Mincing Lane in London for fabulous prices. There was much rivalry between the protagonists of Assamese tea, and in 1841 a dispute arose about just who had origin-

53 W. Francis. 1908. *The Nilgiris* (*Madras District Gazetteers*). Madras: Superintendent, Government Press (p. 178).

54 P. Mohandas. 2005. *A Historical Study of the Colonial Investments in Malabar and the Nilgiris in the Nineteenth Century*. Doctoral dissertation, Department of History, University of Calicut (pp. 97–98, 132).

55 Moxham (2003: 128).

56 Combertus Pieter. Cohen Stuart. 1919. 'Le nom scientifique de la plante de thé', *Bulleltin Agricole de l'Institut Scientifique de Saigon*, 1: 358–361.

57 William Griffith. 1839. 'Report on the tea plant of upper Assam', *Transactions of the Agricultural and Horticultural Society of India*, III: 94–180.

ally discovered tea in northeastern India. Jenkins and Charlton had been lauded in the correspondence of the Tea Committee since December 1834, and these two men were awarded gold medals by the president of the Agricultural and Horticultural Society of Bengal in 1842.

Meanwhile Bruce, who was not quite in a position to hobnob with the great and the good in Calcutta, was unceremoniously ignored as having been no more than 'a zealous hard-working person' endowed with 'a tolerable acquaintance with the natives of Upper Assam, and of the Assamese language, so far as colloquial intercourse with the lower orders, and the possession of strong physical powers'.[58] Charles Alexander Bruce died on the 23rd of April 1871 and was buried near Tezpur, where his grave, which is still carefully maintained on the Pertabghur tea estate (Assamese *pratāpgaḍ* প্ৰতাপগড় [pɹɔtapgɔɹ] 'Pratāp's moat'), is adorned with an epitaph which today grants the man posthumous recognition as the 'discoverer of tea plants in Assam'.[59]

The epitaph does not mention his brother Robert Bruce, who actually first saw the tea plant in 1823, just before his brother arrived in northeastern India. In this context, neither the 1815 report by colonel Robert James Latter regarding the use of tea amongst the Singpho nor the tea plant from the Kathmandu valley provided by Edward Gardner in 1817 nor David Scott, who in 1819 had insisted that the plants in Assam were of the same species as the Chinese tea cultigen, generally tend to receive any mention at all. The role of Manirām Datta Baruvā, the *devān* of the Ahom royal court, who had understood precisely what Robert Bruce was looking for in 1823, is likewise passed over in silence.

Four years after the Dutch had begun to auction Javanese tea on the Amsterdam market, the first small shipment of Assamese tea arrived at Mincing Lane in London in January 1839. This first batch of tea was assessed by the tasters of Messrs. Gibbs & Co., Peek Brothers & Co., Miller & Lowcock and Twining.[60] The tasters still found the Assamese tea wanting in fragrance, an inexorable consequence of the fact that the tea planters in Assam were ignorant of the techniques of manufacture. Nonetheless, the Indian venture was encouraged by the incorporation of the Assam Tea Association by deed of parliament the following month, on the 12th of February 1839, with a capital of £500,000 in 10,000 shares of £50 each.

At the same time, the Bengal Tea Association was formed in Calcutta as a joint stock company with a capital of Rs. 10,00,000. William Prinsep of Carr, Tagore and Company arranged a 'junction of interests' so that the Assam Tea Association and Bengal Tea Association were amalgamated into a single Assam Company. The Calcutta branch was allotted 2,000 shares, distributed amongst 78 shareholders, with 280 shares being held by Indians. In August 1839, the Assam Company set up its headquarters at Nāzirā নাজিৰা in Assam. Charles Bruce, J.W. Masters and J. Parker were appointed superintendents of tea culture, and the government provided cheap land on easy terms.[61]

In 1839, Dr. Wallich also sent some tea seeds of the *assamica* cultivar indigenous to India from Calcutta to the Royal Botanic Garden in Pērādeṇiya පේරාදෙණිය in Ceylon, where they were sown in December 1839. A few months later, Wallich sent an additional 205 live *assamica* seedlings, which were planted at the Royal Botanic Garden at Pērādeṇiya, on the land of the chief justice Anthony

58 Griffith (1839: 176). Some of the newspapers at the time reporting on the British progress in producing tea in India do credit Bruce with the discovery of tea (e.g. 'Mr Bruce's report on Assam tea', *Chambers Edinburgh Journal*, Vol. IX, No. 417, Saturday 25 January 1840, pp. 2–3.), although the year of discovery reported in the newspaper cited was three years later than the actual year of discovery.

59 Remarkably, at least three different photographs of his grave have been published by Thomová, Thoma and Thoma (2002: 209), Šimsa (2009: 19) and Sarin and Kapoor (2014: 37).

60 Rose (2009: 32).

61 H.A. Antrobus. 1957. *A History of the Assam Company, 1839–1953*. Edinburgh: T. and A. Constable, pp. 37–39; Blair Bernard Kling. 1976. *Partner in Empire: Dwarkanath Tagore and the Age of Enterprise in Eastern India*. California: University of California Press, pp. 145–147.

Oliphant near Queens Cottage in Nuvara Eliya නුවරඑළිය (நுவரெலியா) and at Essex Cottage on land that later became part of the Naseby estate.[62]

However, at this time coffee was the lucrative crop in Ceylon. Since 1658, the Dutch East India Company had set up coffee plantations at many sites on the island, and Ceylon became a major coffee producer although the production of coffee in Java remained far more important. After the British take-over of the island, Englishmen and others too entered the coffee business. Two of these new coffee entrepreneurs later became famous for having prematurely diversified into tea, although tea initially constituted a chiefly botanical interest and constituted no meaningful portion of their business.

Gabriel and Maurice Benedict de Worms were born in 1802 and 1805 in Frankfurt am Main as the grandsons of Mayer Amschel Rothschild, founder of the Rothschild banking dynasty. Maurice Benedict de Worms reached Ceylon in April 1841, acquired lands on the island and then sailed as far as Manila and then returned to Ceylon, where he set up the Rothschild coffee estate at Pussællāva පුස්සැල්ලාව.[63] Maurice Benedict de Worms was amongst the first to grow tea in Ceylon.[64] In 1841, he tried to grow tea plants in a clearing at Labookellie on the Ramboda pass.[65] Later lore would preserve or invent the tradition that he had brought back the first tea plants from China to Ceylon on his 1841 voyage. In reality, he was more than likely just a happy recipient of some of the *assamica* seedings sent by Wallich which were being propagated on a small scale in Ceylon at this time. From 1841, the Rothschild estate maintained a stand of tea trees.

In 1859, regarding his visit to the Rothschild estate, Sir James Emerson Tennent wrote:

> On this fine estate an attempt has been made to grow tea: the plants thrive surprisingly, and when I saw them they were covered with bloom. But the experiment was defeated by the impossibility of finding skilled labour to dry and manipulate the leaves. Should it ever be thought expedient to cultivate tea in addition to coffee in Ceylon, the adaptation of the soil and climate has thus been established, and it only remains to introduce the artisans from China to conduct the subsequent process.[66]

In Rothschild family lore, de Worms is said subsequently to have brought a Chinese tea curer to Ceylon as an experiment, but the cost of producing tea locally proved not to be commercially viable. The Rothschild coffee estate expanded to include twelve properties and cover over 2,800 hectares of land. In 1862, the de Worms brothers set sail for England, and their estate was acquired by the Ceylon Company, and in 1892 the Rothschild estate passed into the hands of the Eastern Produce and Estates Company.[67] In 1867, only four hectares of land in all of Ceylon were planted with tea, however, and no tea at all was exported from Ceylon at this time.[68]

Meanwhile in Assam, Manirām Datta Baruvā মণিৰাম দত্ত বৰুৱা, who had helped the Bruce brothers and had been an early associate of David Scott, continued his work for the British, to whom he was commonly known as Manirām Devān মণিৰাম দেৱান in reference to his previous status as counsellor to the Ahom royal court. He served as a *devān* for the Assam Company at Nāzirā too from August 1839.[69] However, he quit from the Assam Company

62 Ukers (1935, Vol. I, p. 177).

63 Victor Gray and Ismeth Raheem. 2004. 'Cousins in Ceylon', *The Rothschild Archive: Review of the Year April 2003 to March 2004*, pp. 52–56.

64 Two decades after the death of Maurice Benedict de Worms, his nephew George de Worms claimed in a letter to *The Times* that his late uncle had 'brought the first tea-plants from China to Ceylon in September 1841' (*The Times*, 23 August 1886, p. 4). However, the plants presumably just came from nearby Pērādeṇiya.

65 Evelyn Frederick Charles Ludowyk. 1966. *The Modern History of Ceylon*. London: Weidenfeld and Nicolson (p. 90).

66 Tennent (1859, Vol. I, 89–90; Vol. II, pp. 251–252).

67 Gray and Raheem (2004).

68 Ludowyk (1966: 92).

69 Griffiths claims that at this time the British attempted in vain to recruit Jacobus Isidorus Lodewijk Levien Jac-

FIGURE 9.14
Indian चाय *cāy* is made from strong black tea with milk, sugar, cinnamon, black cardamom, true cardamom, black pepper, cloves, freshly grated nutmeg, dried powdered ginger or variations upon this theme. European seamen used to risk their lives sailing the seven seas to procure these rare and costly spices from the East, whilst today they are all available for a pittance at any good supermarket.

at Nāzirā in the 1840s to establish his own tea gardens at Jorhat.

In 1841 the Assam Company had managed to produce 29,000 pounds of tea, less than a single shipment from Canton, at the exorbitant price of £160,000. The quality of Assam tea was poor. In 1843, Charles Bruce and his assistant Masters, who had headed the company, were dismissed by the directors. That year ten Chinese tea manufacturers from China who had been procured earlier by George Gordon were compelled to bargain hard with the East India Company to prevent from being split up and sent individually to different localities. They also had to wrangle tenaciously to secure better pay than the contracts that they had been tricked into signing.

In response to encroachments upon Singpho land by tea planters and to preaching by Baptist missionaries, the Singpho of Sadiya rose up against the British in 1843, but British reinforcements put down the Singpho uprising. Subsequently, however, the tea planters judged the area too malarious and too remote and the potential work force too unruly. The British abandoned the wild tea zones of the Sadiya frontier, and in that same year they abolished slavery so that the tea estates resorted to employing indentured labourers, tenants and sharecroppers instead.

In 1844, out of 798 chests of Assamese tea, no less than 289 proved to be unsaleable, and much tea lay wasting in the company godown in Calcutta.[70] In the 1840s, many investors had provided large sums of capital, but they lost all their money. For this first generation of investors in Indian tea, the Assamese fiasco turned out to be very much of the same genre as the Dutch tulip mania of the 17th century or the depreciation of Australian sheep farm shares, pan-American railway stock and Venezuelan mining rights in the 19th century.

An unanticipated effect of the initial British failure at manufacturing tea in India was the birth of Indian tea as a beverage. The Indians would boil the black tea leaves and then, like the English, add milk and plenty of sugar. The refined Indian palate improved this beverage with a palette of

obson from the Dutch East Indies for their tea enterprise in Assam, but his book is a disorganised collation of often imprecise gleanings taken from secondary and tertiary sources, and his claims, including this particularly interesting one, are all unsourced (John Charles Griffiths. 2011. *Tea, A History of the Drink That Changed the World*. London: André Deutsch, p. 296).

70 Forrest (1973: 114).

harmonious natural flavourings, employing black cardamom, true cardamom, cloves and cinnamon. This expedient way to transform fully oxidised tea into a savoury drink would ultimately give the world an entirely new beverage, but meanwhile by 1847 the Assam Company was in a shambles. That same year, at the age of 61, Nathaniel Wallich retired from his post as head of the Calcutta Botanic Garden, where he was succeeded by his former pupil the Scotsman Hugh Falconer. Meanwhile, Manirām Devān suffered the unfair reprisals of envious British tea planters who were displeased about native competition.

Most of the Assam Company's assets were sold, and various tea entrepreneurs picked up where the Assam Company left off. The reorganised and much reduced Assam Company only barely made a profit in 1848 and paid the first modest dividend in 1852, at which time dozens of small tea companies had arisen in Assam. Manirām Devān partook in a local plot against British rule during the Indian Mutiny of 1857, and he was hanged for treason on the 26th of February 1858. Consequently, he is revered today as a martyr of Indian tea. His plantations were confiscated by the East India Company and sold to captain James Hay Williamson.[71] The Indian Mutiny also brought about the demise of the British East India Company, with its private armies. The Government of India was transferred to the Crown on the 1st of September 1858 as the British Raj, and the East India House on Leadenhall Street was demolished in 1861.

New tea entrepreneurs filled the void left after the *débâcle* of the Assam Company. From 1859, the Jorehaut Company became one of the more prominent such enterprises. One of its founders and its first superintendent was George Williamson, cousin of James Hay Williamson and former planter in the Assam Company who had sought to promote the use of the *assamica* cultivar and its hybrids.[72] In 1859, there was still effectively no European trade in Indian tea, and for British investors in Indian tea the bursting of the speculative bubble of the 1840s would soon repeat itself. The Assamese tea industry went into a second and more severe crisis in 1866 when the tea mania boom bust. By 1870, over one million pounds sterling had been lost by investors, and 56 out of 60 tea enterprises went into liquidation. Even the trimmed down Assam Company sustained considerable losses and could not pay dividends during these years of crisis.

Some tea gardens were abandoned, and the jungle once again began to encroach upon the land that had been taken from it.[73] Yet the tide had turned. During this troubled period, James Hay Williamson teamed up in 1869 with Richard Manuel Blamey Magor, assistant at the Great Eastern Hotel in Calcutta, to found the Williamson Magor Group.[74] This company still exists today under the guise of the tea conglomerate McLeod Russel and produces 104,000 tonnes of black tea annually from gardens in Assam and West Bengal, accounting for a tenth of India's 990,000 tonne tea output. Today the company also produces black tea in Uganda, Rwanda and Vietnam.

Meanwhile in Sikkim, the Duars and Nepal

At the beginning of the 17th century, the kingdom of Sikkim consisted of today's Sikkim, all of Darjeeling district, the lands as far west as the Aruṇ अरुण river in what today is eastern Nepal, and G'amba གམ་པ་ county including Lake Modr'amling མཚོ་མོ་གྲམ་གླིང་ in what today is Tibet. The Limbu are native to the mountains and hills east of the Aruṇ,

71 Stephanie Jones. 1992. *Merchants of the Raj: British Managing Agency Houses in Calcutta Yesterday and Today*. London: Macmillan Press.

72 H.A. Antrobus. 1948. *A History of the Jorehaut Tea Company Ltd., 1859–1946*. London: Tea and Rubber Mail.

73 Antrobus (1957: 409); Radhe Shyam Rungta. 1970. *The Rise of Business Corporations in India 1851–1900*. Cambridge: Cambridge University Press, p. 103.

74 Jayeeta Sharma. 2011. *Empire's Garden: Assam and the Making of India*. Durham, North Carolina: Duke University Press (pp. 41–42).

and the Lepchas native to the lands east of the Mecī मेची. The Dränjongpa possibly entered Sikkim from southern Tibet in the 9th century, at the same time that the 'Ngalong are believe to have settled adjoining western Bhutan. During these pre-dynastic centuries, a landed aristocracy established itself, and human population remained sparse. All three peoples, Dränjongpa, Lepcha and Limbu were recognised as citizens of the kingdom in the *Lho-Mon-gTsoṅ gSum* ལྷོ་མོན་གཙོང་གསུམ་ agreement of 1663.[75]

Before the rNam-rgyal dynasty was installed in 1642, Sikkim was already governed by an élite consisting of *'lön* བློན་ 'ministers', and a gradual a process of state development unfolded, driven through the spread of Mahāyāna Buddhism.[76] The people who later become the royal clan of Sikkim were by origin Tibetanised Tangut, who in 1226 had fled after the destruction of the Tangut empire by Genghis Khan during his last campaign.[77] This clan migrated to Sikkim from Mi-ñag མི་ཉག་ [mi̱ ɲāˀ] in Khams, located just to the west of modern Dar-rtse-mdo དར་རྩེ་མདོ་ [tʰa̱tsēto̱],[78] an important tea trading post near the Sino-Tibetan frontier in what was then still eastern Tibet.[79] Over the course of centuries, the Sikkimese élite intermarried with the indigenous Lepcha population of the country, even before the establishment of the rNam-rgyal རྣམ་རྒྱལ་ dynasty.[80]

The area east of the Tista in what was once southeastern Sikkim surrounding Kalimpong (Lepcha *kálenpung* ᰀᰦᰜᰬᰵᰎᰪᰶ [kɑlɛnpɯŋ] 'our assemblage hillock', Dränjongke *ka'lönpung* བཀའ་བློན་སྤུངས་ 'assembly of cabinet ministers')[81] came under Bhutanese control in 1707.[82] In late 1841, the East India Company forcibly seized the eastern Bhutanese duars, which today form part of the territory of the Indian state of Assam. The duars or 'dooars' comprised the long tract of plains skirting Bhutan's present southern border but once constituting Bhutanese territory, thus named after Hindi *dvār* द्वार 'door' because these territories were the entranceways up into the hills. After two decades of espionage, intrigue and aggression, the British in 1864 annexed the western Bhutanese duars, which thus became the Bengal duars, as well as the adjacent hill tracts of Kalimpong. This second seizure of Bhutanese territory led to the Duar War (*gerebatur* 1864–1865).

75 van Driem (2001: 821, 834, 872–873); Saul Mullard. 2011. *Opening the Hidden Land: State Formation and the Construction of Sikkimese History*. Leiden: Koninklijke Brill (pp. 140–146).

76 Saul Mullard. 2006. 'The "Tibetan" formation of Sikkim: Religion, politics and the construction of a coronation myth', *Bulletin of Tibetology*, 41 (2): 31–48; Mullard (2011).

77 Rolf Alfred Stein. 1947. 'Mi-ñag et Si-hia: géographie historique et légendes ancestrales', *Bulletin de l'École Française de l'Extrême-Orient*, XLIV: 223–265; van Driem (2001: 448–460).

78 Anna Balıkcı-Denjongpa. 2008. *Lamas, Shamans and Ancestors: Village Religion in Sikkim*. Leiden: Koninklijke Brill (pp. 65–74, 374). The now no longer extant toponym cited in historical sources is Aḥo lDoṅ (Mullard 2011: 69–70).

79 Today the town is known in Mandarin as Kāngdìng 康定.

80 During this pre-dynastic period, Sikkim was visited by Buddhist missionaries from Tibet such as Rig-ḥdzin rGod-ldem-can (1337–1408) and Kaḥ-thog-pa bSod-nams rGyal-tshan (born 1466) (Mullard 2011).

81 Heleen Plaisier. 2007. *A Grammar of Lepcha*. Leiden: Koninklijke Brill (p. 182); Pasang Tshering Lepcha. 2013. *Lepcha Nomenclatures in Maayel Lyaang*. Kalimpong. Mani Printing Press (pp. c, 1, 26). Transliteration of the Lepcha script and phonological transcription follow the system developed by Plaisier. My cordial thanks go to Jenny Bentley of Basel for generously providing me with a copy of Pasang Tshering Lepcha's book and additional toponymical elucidations.

82 In the context of Bhutan and Sikkim, both Dzongkha of Bhutan and Dränjongke of Sikkim are romanised in the phonological transcription called Roman Dzongkha (Karma Tshering and van Driem 1998). In both languages, a literary or liturgical Chöke pronunciation exists for many words alongside the colloquial spoken form. For the title of *chögel* ཆོས་རྒྱལ་ and for the proper names of Sikkimese monarchs, a romanisation of the formal Chöke pronunciation is used. Dränjongke phonology is quite similar to Dzongkha phonology but differs from the Dzongkha sound system in several respects. At the time of writing, the definitive version of romanised Sikkimese has not yet been completed, but a preliminary version already exists in Gangtok and Bern.

Now the jungle-clad ruins of the old Bhutanese fortress of Damsang dzong འདམ་སང་རྫོང་ can be found on top of the hill at Bīsmīle, just 5 km east of Kalimpong, where a major battle of the Duar War was fought between Bhutan and the British in November 1865. The eighteen Bengal and Assam duars as well as Kalimpong were ceded to the British Raj by the Treaty of *Sin-cu-la* སིན་ཅུ་ལ་ 'Sinchula' on the 11th of November 1865.[83] The annexed hill tracts of Kalimpong became 'British Bhutan' and today form part of Darjeeling district.[84] In southwestern Bhutan, the lore of the Lhokpu preserves the tradition that the Lhokpu ancestors used to hunt and eat *hnar* 'elephant' in the dense and largely uninhabited jungles of the Bengal duars. Yet there have been ever fewer feral populations of elephant in the duars since the large-scale destruction of forest habitat in the 1860s and 1870s, when vast swathes of jungle were cleared by the British to establish the tea gardens in these now densely populated areas.

Today the territory that lies to the west of the world's third highest mountain Kangchendzö'nga གངས་ཆེན་མཛོད་ལྔ་ 'the five treasures of the great snows' is part of eastern Nepal. In the 17th century, these lands lay in between the kingdom of Sikkim and the Malla kingdoms of the Kathmandu valley. The Kiranti peoples, comprising the Limbu kingdoms and the Rai nations, inhabit these lands. These communities sometimes changed their nominal allegiances in order to maintain their *de facto* independence. Before the Gorkhali conquest, the ten Limbu kingdoms of Limbuwan once professed alliance to the Newar kingdoms in the Kathmandu valley during the reign of the 4th Sikkimese *chögel* Jurme 'Namgel འགྱུར་མེད་རྣམ་རྒྱལ་ (*regnabat* 1717–1733) because they were being too heavily imposed upon by the Sikkimese to build fortifications.[85]

After Gorkhali troops under Pr̥thvī Nārāyaṇ Śāh पृथ्वी नारायण शाह subdued the Newar kingdoms of the Kathmandu valley between 1767 and 1769, the Gorkha army under his successors began to expand into what is today eastern Nepal. Pr̥thvī Nārāyaṇ Śāh's eldest son and successor, Pratāp Siṃha Śāh प्रताप सिंह शाह (*imperabat* 1775–1777), ascended the throne at the age of twenty-three. During his brief two-and-a-half year reign, Pratāp Siṃha reconquered the Vijaypur विजयपुर and Caudaṇḍī चौदण्डी areas, which had already been lost to the Gorkhali government and fallen into the hands of a local ruler, Buddha Karṇa Rāī बुद्ध कर्ण राई. In 1776, Pratāp Siṃha also waged the pivotal Battle of Cainpur चैनपुर, at which the Limbus became tragically caught up in internecine strife.

At the time, all of Limbuwan, comprising the ten Limbu kingdoms, was under Sikkimese suzerainty, and this battle pitted Gorkhali forces against Sikkim for the first time. The Gorkhali forces of Pratāp Siṃha defeated the army of the 5th Sikkimese *chögel* 'Namgel Phüntsho རྣམ་རྒྱལ་ཕུན་ཚོགས་ (*regnabat* 1733–1780). Whilst most Limbus fought on the Sikkimese side at this battle, many Limbus had already also been recruited to fight on the Gorkhali side. Two years later, in 1778, the Gorkhali army was repulsed by Sikkimese troops when they attacked the Sikkimese territories of Limbuwan and Morang.

The Gorkha state continued to strengthen its hold over the Kiranti lands of the Near and Middle Kirant in what today is eastern Nepal. By the time that Prāṇabal Rāṇā प्राणबल राणा was appointed *subbā* of Dhankuṭā धनकुटा in 1782, most Kiranti peoples in eastern Nepal had accepted Gorkhali rule, but the Limbus continued fighting. Gorkhali forces were only able to overcome the Limbu resistance and drive off the Sikkimese forces from Limbuwan from 1785 to 1786, culminating in the annexation of the Further Kir-

83 Currently, *Sin-cu-la* སིན་ཅུ་ལ་ 'Sinchula', a village in southwestern Bhutan, is administratively zoned within D'âla *geo* དར་ལ་རྒེད་འོག་ of Chukha ཆུ་ཁ་ district.

84 Mullard recorded an instance of the name written as D'amzang dzong དམ་བཟང་རྫོང་ (Saul Mullard. 2014. 'Sikkim and the Sino-Nepalese War of 1788–1792: A communiqué from Bǎo Tài to the Sikkimese commander Yug Phyogs Thub', *Revue d'Etudes Tibétaines*, 29: 29–37).

85 Sir Herbert Hope Risley, ed. 1894. *The Gazetteer of Sikhim*. Calcutta: Bengal Secretariat Press (p. 15).

ant in 1786, which now comprises the easternmost portion of today's Nepal. In 1797, a new Gorkhali attack was repulsed by Sikkimese troops led by Yuchothup ཡུག་ཕྱོགས་ཐུབ་ during the reign of the 6th *chögel* Tendzi 'Namgel བསྟན་འཛིན་རྣམ་རྒྱལ་ (*regnabat* 1780–1793). Yuchothup defeated the Gorkhali invaders in seventeen battles and was referred to by the Gorkhalis by the mythological epithet Satrājit सत्राजित.

In January 1789, general Dāmodar Pāṇḍe दामोदर पाण्डे led a campaign into Sikkim, and Gorkhali troops occupied the Terai lands west of the Tista. Meanwhile, Gorkhali troops led by Johar Siṃha जोहर सिंह invaded the Sikkimese heartland and seized the capital Raptentse རབ་བརྟན་རྩེ་, forcing the Sikkimese royal court into hiding. In 1790, the royal family fled to Lhasa, where the king died in exile three years later.[86] At the same time, the Nepalese army was already engaged in attacking Tibet. In 1788, the Nepalese regent Bahādur Śāh बहादुर शाह (*obtinebat* 1785–1794) had sent his army across the Himalayas to attack four Tibetan districts north of the Nepalese border. The Tibetans first appealed for assistance to the British East India Company, but in vain. Subsequently, Tibet requested the assistance of the Manchu emperor in China, who only reluctantly sent troops in early 1789. The Chinese troops were only sent belatedly and never entered the theatre of war.

The Gorkhali advance was contained by the Tibetan army at *rDzoṅ-dgaḥ* རྫོང་དགའ་ [tsɔŋkā], and the 8th Dalai Lama *bLo-bzaṅ ḥJam-dpal rGya-mtsho* བློ་བཟང་འཇམ་དཔལ་རྒྱ་མཚོ་ [lōpsā̃ tɕāmpɛ̃ kʲɑ̱tsɔ̄] intervened and arranged negotiations at *sKyid-roṅ* སྐྱིད་རོང་ [kʲīrɔ̃] in June 1789, which resulted in a protocol containing a list of Gorkhali demands for tribute. No authoritative text exists, and there are discrepancies between extant Tibetan and Nepali versions. Tibet paid 300 *rDo-tshad* རྡོ་ཚད་ [to̱tsē] or roughly 600 kg of silver to have the Gorkhali army remove to Nepal, and, after the Nepalese left, Tibet repudiated the settlement. Tibet also complained in stronger terms than before and claimed compensation for the increasingly unreliable quality of Tibetan and Bhutanese coins such as the *Mahendra Mallī* महेन्द्र मल्ली, weighing one *tolā* तोला or 11.66 grammes, which had traditionally been minted in Nepal and which, since the Malla period, had steadily been decreasing in silver content, thus debasing the Tibetan and Bhutanese currencies. Relations remained tense, and in September 1791 the new expansionist Gorkhali state again invaded Tibet once again.

The Gorkhali army marched as far as *gŹis-ka-rtse* གཞིས་ཀ་རྩེ་ [ɕi̱kātsē], looting the riches of *bKra-śis Lhun-po* བཀྲ་ཤིས་ལྷུན་པོ་ [ʈ̱ʂāɕī ɬȳpɔ̄] monastery. The Tibetan appeal to the Manchu emperor Qiánlóng 乾隆 this time received a serious response, and Chinese troops were sent to Tibet under the command of Fúkāng'ān 福康安. As the Gorkhali army set off for Nepal with the loot they had plundered from Tibetan monasteries, many Gorkhali troops were wiped out by an epidemic. Meanwhile, the Tibetan forces, which had fled into the interior, regrouped with newly arrived Chinese troops, and a combined Tibetan and Chinese force drove off the surviving Gorkhali troops in early 1792 and marched through the Rasuvā रसुवा pass into Nepal and proceeded down the Triśulī त्रिशुली river valley to engage the Gorkhali army at Betrāvatī बेत्रावती, pushing down as far as the banks of the Tādī तादी, just 15 km northwest of Kathmandu.

Nepal was forced to sign a treaty with the Tibetans and Chinese to respect Tibetan territory and to dispatch a quinquennial tributary mission to the Manchu court. In October 1792, in accordance with the treaty signed the month before, the first such mission from Kathmandu to Peking via Lhasa left from Dhaibuṅ धैबुङ, led by *kājī* Devadatta Thāpā देवदत्त थापा and accompanied by Fúkāng'ān 福康安.[87] In the aftermath, Sikkim

86 van Driem (2001: 1143–1144), Mullard (2014: 31).

87 The second quinquennial mission from Kathmandu to Peking, led by *kājī* Narsiṃha Guruṅ नरसिंह गुरुङ, was undertaken just three years later, in 1795, two years earlier than scheduled, because of the impending abdication of Qiánlóng 乾隆 in favour of Jiāqìng 嘉慶, whereas the third mission, which had consequently been rescheduled to take place in 1800, was sent in 1802

regained a portion of her territory but was obliged to pay tribute to the Gorkhali government in Kathmandu until 1815.

In 1793, king Raṇ Bahādur रण बहादुर had rebels against Gorkhali rule beheaded in the Kiranti communities of the Dūdhkosī and Aruṇ areas, but in 1796 the king granted amnesty to fugitives whilst reminding the Kirantis of the punishments meted out three years earlier. However, uprisings against the Gorkhali state by the Kirantis continued until 1808. There was also much subterfuge against revenue collection. In eastern Nepal, for example, Limbus and Lepchas left taxable rice fields barren and cultivated only tax-exempt lands.[88]

By 1814, the new Gorkhali state had armed itself again and was ready for war. Sensing danger, the 7th *chögel* Tsuphü 'Namgel གཙུག་ཕུད་རྣམ་རྒྱལ་ (*regnabat* 1793–1863) moved the capital to Tumlong in 1814, which was nearer to the border with Tibet, Sikkim's ally. The Sikkimese Terai between the Mechi and Tista was seized by the Nepalese, and this led to the Anglo-Nepalese war (*gerebatur* 1814–1816). By this time, the Limbus of eastern Nepal were no longer fighting against the emergent Gorkhali state, but for Nepal against Sikkim and against the East India Company.

The Treaty of Sugaulī सुगौली signed on the 4th March 1816 by Candraśekhar Upādhyay चन्द्रशेखर उपाध्याय and general David Ochterlony gave the East India Company direct control over Kumaon and Garhwal, territories to the west of the Mahākālī that had been subjugated by Nepal during Gorkhali military actions conducted between 1804 and 1811, years after the first aborted campaign in these western regions under the regent Bahādur Śāh in 1790. The hill states between Tehri and Ladakh were taken under British protectorate. Furthermore, the treaty stipulated that Nepal accept the observation of its politics by a British residency in Kathmandu. The British restored the 'Darjeeling Terai' to Sikkim.

Later by provision of the Treaty of *tetuliyā* তেতুলিয়া 'Titalia' on the 10th of February 1817, the governor general of India, lord Moira, restored to Sikkim all of her western territory, except for the vast tract comprising Limbuwan, as well as the Terai lands east of the Mecī that had been taken by the Nepalese during the Anglo-Nepalese War.

instead because of the enthronement of the infant king Gīrvāṇa Yuddha Vikram Śāh गीर्वाण युद्ध विक्रम शाह and the ensuing political intrigues in Kathmandu, and this third mission, led by *kājī* Sarvajīt Pāṇḍe सर्वजीत पाण्डे, only went as far as Ṭīṅgrī टींगरी or Diṅ-ri དིང་རི་ [tʰĩrī]. The fourth mission in 1807, led by *kājī* Bhaktavīr Thāpā भक्तवीर थापा, only went as far as Kutī कुती or gÑaḥ-lam གཉའ་ལམ་ [ɲālɑ̱m], whilst the fifth mission in 1812, likewise led by Bhaktavīr Thāpā, once again went all the way to Peking via sKyid-roṅ སྐྱིད་གྲོང་ [kʲ īrɔ̃] and took fifteen months to return to the Kathmandu. The sixth mission in 1817, led by *kājī* रणजुर थापा Raṇajur Thāpā, was dispatched in the wake of the Anglo-Nepalese war (*gerebatur* 1814–1816), and in response to an entreaty for future support made by the Nepalese emissaries on behalf of prime minister Bhīmsen Thāpā भीमसेन थापा, the Manchu emperor replied that China was incapable of providing support to Nepal in case of war. The seventh mission in 1822 was led by *kājī* Dalbhañjan Pāṇḍe दलभंजन पाण्डे to the court of the emperor Dàoguāng 道光. The eighth mission, led by *kājī* Vīr Keśar Pāṇḍe वीर केशर पाण्डे, received a warm welcome Peking in 1827, and the ninth mission in 1832 was led by *kājī* Vīr Keśar Pāṇḍe वीर केशर पाण्डे. During the tenth mission in 1837, in response to the entreaty relayed by *kājī* Puṣkar Śāh पुष्कर शाह, the Manchu court indicated that China could lend no support, either financial or military, in case of war with Britain. The eleventh mission in 1842, led by *kājī* Jagat Vam Pāṇḍe जगत वम पाण्डे, reached Peking in the wake of the First Opium War (*gerebatur* 1839–1842) and the war between Tibet and the Ḍogrā डोगरा state in the Punjab (*gerebatur* 1841–1842). Pāṇḍe's request of aid for Nepal in case of a military conflict was declined by the Manchu imperial court in 1842, just as it had been in 1817 and 1837, on the grounds that Nepal was a foreign state. In practice, therefore, the tributary relationship between Nepal and China essentially entailed a quinquennial courtesy visit in sequel to the Nepalese military defeat of 1792 in order to maintain cordial relations. Usually, a Nepalese delegation to China would comprise about forty-five men. In reply to the *arjī* अर्जी 'missive' from the king of Nepal, Peking responded with a *parvānā* परवाना 'mandate', and the Nepalese gifts were reciprocated with gifts from China (Vijay Kumar Manandhar. 2001. *A Documentary History of Nepalese Quinquennial Missions to China 1792–1906*. Delhi: Adroit Publishers).

88 van Driem (2001: 604–605).

The Treaty of Titalia furthermore stipulated that border disputes between the kingdoms of Sikkim and Nepal would in future be settled through British mediation. In 1827, just such a dispute arose between Sikkim and Nepal over ‘Ontoo hill’ or ‘Oontoolah’, a ridge just west of Mirik and east of the Mecī river. William Bentinck dispatched captain George William Alymer Lloyd and J.W. Grant, a commercial prospector from Malda, to Sikkim. After surveying the Ontoo ridge near Mirik, they continued to Darjeeling, where they stayed for six days in February 1829. Lloyd was so charmed by the site that he recommended that the British take measures to seize the area. In fact, Lloyd would later live the rest of his life in Darjeeling, where he died in 1865 at the age of 76.

From the summer of 1829, the East India Company began putting Sikkim under pressure, and in the end Britain managed to wrest Darjeeling from Sikkim. On the 1st of February 1835, the East India Company acquired Darjeeling by deed of grant from the Sikkimese *chögel* Tsuphü ’Namgel ཆོས་རྒྱལ་གཙུག་ཕུད་རྣམ་རྒྱལ་ for the purpose of establishing a sanatorium. The original names for Darjeeling were Lepcha *dárjúlyáng* ᰌᰦᰲᰈᰫᰜᰤᰦᰵ [d̪arʒulʲaŋ] ‘abode of the gods’ and Dränjongke *dôji’ling* རྡོ་རྗེ་གླིང་ ‘thunderbolt site’, which the British recorded as ‘Dorjéling’.[89] This hill tract of 357 km² grew into a British enclave within the territory of the kingdom of Sikkim. At the time, there were no tea gardens, and Darjeeling was covered by jungle and sparsely inhabited by Lepchas throughout the hills and by Meches in the low-lying areas. Place names throughout the hill area preserve numerous native Lepcha toponyms, such as Kurseong, originally *kursóng* ᰀᰪᰲᰠᰩᰵ [kɯrsɔŋ] ‘orchid area’.[90]

The British began to colonise the area in 1839, five years after acquisition of the tract. The Scotsman Dr. Archibald Campbell, who had served as assistant resident and surgeon under acting resident Brian Houghton Hodgson at the British residency in Kathmandu from 1833 to 1840, was appointed superintendent of the new British settlement in Darjeeling and agent-in-charge of relations with Sikkim, a post he held from 1840 to 1863. In 1835, Darjeeling was a village with less than one hundred inhabitants, but by 1863 there were already about seventy houses there. This tiny but booming British-run enclave within Sikkimese territory was quite understandably a source of displeasure to the Sikkimese government.

In November 1841, Campbell planted the tea seeds from Kumaon that had been sent to him by Wallich, and by the following May the seeds yielded a dozen seedlings in his garden at One Tree. These tea seedlings stood on a lower portion of his Beechwood estate, which was subsequently purchased by Samuel Smith in May 1844. Campbell only chanced to see his original tea saplings again when he visited the property in August 1846, at which time he observed that the trees were thriving.[91] Therefore, in October 1846, Campbell pro-

89 Plaisier (2007: 182); Lepcha (2013: b-c, 7, 60); Bayley. 1838. ‘Map of the Country between Titaleea and Dorjéling’. The formal Chöke pronunciation for Dôji’ling རྡོ་རྗེ་གླིང་ is *Dorje’ling*.

90 Plaisier (2007: 100), Lepcha (2013: b, 11, 74).

91 A map of ‘Darjeeling in October 1841’ (reproduced on p. 24 of of Fred Pinn. 2003. *Darjeeling Pioneers: The Wernicke-Stölke Story*. Bath: Pagoda Tree Press) shows ‘Mr. S. Smith’s Location’ in 1841 at the site of today’s St. Joseph’s College, whereas the site marked as ‘Dr. Campbell’s’ already matches the current Campbell Cottage, which lies south of the Planters’ Club and north-northwest of Chevremont, just before reaching the site of the old Rockville Hotel when coming from Chowrasta (*Caurāstā* चौरास्ता). The historical Beechwood estate was larger than the plot on which the Campbell Cottage still stands today, however, and extended down the hill to the area around today’s Clock Tower. The original garden where Dr. Campbell planted tea in November 1841 must have lain in the lower portion of the estate that was later acquired by Samuel Smith in May 1844, and indeed town maps of subsequent decades label the area around today’s Clock Tower as Beechwood (R.D. O’Brien. 1883. *Darjeeling: The Sanitarium of Bengal, and its Surroundings*. Calcutta: W. Newman & Company; John Murray. 1903. *A Handbook for Travellers in India, Burma, and Ceylon*. London: John Murray (map between pages 314 and 315); Geo. P. Robertson. 1913. *Darjeeling Route Guide with Directions, Plans, a Map and a Complete Index for the Instruction and Guidance of Visitors to the Town*. Darjeeling: Bose Press). Dr. Campbell’s old residence at the top of

cured a fresh supply of tea seeds from Assam, both of the native *assamica* and the imported *sinensis* cultivar from China, through the good offices of major Francis Jenkins and his personal assistant, captain Brodie. He planted these seeds at Lebong, where they germinated in March and produced seven thousand robust seedlings by May 1847.

However, on the 12th of July 1849, Campbell wrote to the Agricultural and Horticultural Society of India: 'I am sorry to inform the Society, that my trial to cultivate the tea plant at Darjeeling, has failed'. The frost and snowfall of the previous winter had proved to much for his first batch of seedlings at Lebong, but Campbell's sense of 'disappointment … gained at a considerable cost' would turn out to be premature,[92] for in 1846 Campbell had also shared a portion of the large shipment of tea seeds which he had received with major James Arden Crommelin and Mr. J.W. Grant. Both of these men managed to obtain and maintain about five hundred healthy seedlings on the Lebong spur. The toponym Lebong comes from the Lepcha word *libóng* ᰜᰧᰓᰩᰵ [libɔŋ], a place where wild pears grow.[93]

At the same time, the seeds originally planted by Campbell on the land subsequently acquired by Samuel Smith at Beechwood had continued to thrive. Moreover, Dr. J.R. Withecombe, the assistant surgeon at Darjeeling and a zealous horticulturalist, obtained seeds from Smith's garden at Beechwood and succeeded in raising over fifty robust seedlings at an elevation of 1,500 m. In 1849, tea was planted by Mr. William Martin in the area known as 'the Kurseong flats', located between Kurseong and Pankhabari (Nepali *paṅkhābārī* पंखाबारी 'fan garden') at an elevation of 760 meters. The tea plants thrived, and Martin also succeeded in raising 23 coffee trees there with seedlings obtained from the Botanic Garden at Calcutta. Smith also planted tea trees at the Canning and Hope Town settlement, located on a spur about a mile to the west of the village of Sonādā सोनादा, which at the time was not much larger than the immediate environs of today's narrow gauge Sonādā railway station.[94]

Darjeeling had been established by the British as a sanitarium within a hilltop enclave which they had leased from the Sikkimese crown. However, during this time of early tea planting, the British encroached belligerently on the Sikkimese territory surrounding this enclave. In 1848, the botanist Dr. Joseph Hooker was carried on a palanquin from Calcutta through the jungle across much of the 600 km to Darjeeling.[95] On the 3rd of November 1849, Campbell and Hooker arrived at Tumlong in order to have an audience with the *chögel* Tsuphü 'Namgel གཙུག་ཕུད་རྣམ་རྒྱལ་, but the *chögel*, dissatisfied with the status quo which the British had orchestrated, declined to see them and left the following day on business.

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the hill currently houses Darjeeling's Superintendent of Police. Today a single mature but decidedly rather young tea bush adorns the eastern side of the small garden behind the cottage. Additionally, in 2017 the newly appointed Superintendent of Police, Akhilesh Kumar Chaturvedi (*Akhileś Kumār Caturvedī* अखिलेश कुमार चतुरवेदी) planted a number of fresh tea seedlings along the eastern embankment of the cottage garden to prevent erosion.

92 Archibald Campbell. 1848. 'Note on the culture of the Tea Plant at Darjeeling (13th of August 1847)', *Journal of the Agricultural and Horticultural Society of India*, Vol. VI, Part I, No. 2, Article III, pp. 123–125; Archibald Campbell. 1850. 'Failure of attempt at cultivating the Tea Plant at Darjeeling (12th of July 1849)', *Journal of the Agricultural and Horticultural Society of India*, Vol. VII, Part I, No. 1, Article V, p. 31.

93 Lepcha (2013: 70). The Lepcha word *libóng* could, however, also denote either the foundation of a house or a house located at a lower place, depending on the context.

94 James Arden Crommelin. 1853. 'A brief account of the experiments that have been made with a view to the introduction of the Tea Plant at Darjeeling (13th of August 1852)', *Journal of the Agricultural and Horticultural Society of India*, VIII: 91–94.

95 Roy Moxham. 2003. *Tea: Addiction, Exploitation and Empire*. New York: Carroll & Graf Publishers (pp. 114–115) [revised as: Roy Moxham. 2008. *A Brief History of Tea: The Extraordinary Story of the World's Favourite Drink*. London: Constable & Robinson, pp. 108–110].

Four days later on their way back to Darjeeling, the British superintendent Dr. Campbell and the botanist Joseph Dalton Hooker …

> were attacked by about fifty Sikkimese, headed by an official called the Singtam Soubah, who seized Dr. Campbell, bound his hands and feet, knocked him down, kicked him, and otherwise ill-treated him. This assault, it appeared, was perpetrated at the instigation of the Dewan, or Prime Minister of the Sikim Raja, who owed Dr. Campbell a grudge, in consequence of his having interfered to procure the release of a Nepaulese girl that had been kidnapped and taken into Sikim.[96]

After their release on Christmas 1849, the British as a retaliatory measure annexed the Terai and foothills adjacent to Darjeeling south of the Rangit, thereby swallowing up 1657 km^2 of Sikkimese territory. The vindictive botanist Hooker wanted the British government to annex the entire kingdom of Sikkim, but Campbell was happy to be made British resident of the territory in which he had just been imprisoned.

In 1852, the first three tea gardens were established that were destined to become commercial tea plantations. These three plantations were Tukvar, Steinthal and Ālubārī. Tukvar or 'Takvār' was founded by captain J. Masson and later split up into smaller gardens, including today's Tukvar, North Tukvar and Pattabong. Lepcha *tukvár* ᰊᰪᰭᰟᰦᰲ [t̪ɯʔkvar] 'grinding stone' is a topographical metaphor for the shape of the ridge on which the tea garden came to be located.[97] The tea garden at Tukvar is today also called 'Puttabong' or 'Patabong', which is a corruption of Lepcha *pátóngbóng* ᰎᰵᰊᰨᰴᰓᰨᰴ [pɑt̪ɔŋbɔŋ], composed of the elements *pátóng* 'bamboo' and *bóng* 'lower lying area, base, foundation', denoting a lower lying area where bamboo grows.[98]

Steinthal was founded by the two missionaries Joachim Stölke and Johann Andreas Wernicke of the *Goßnersche Missionsgesellschaft*, two friends who had each married the other's sister in Germany, sailed to Calcutta in 1838 and then managed to make their way to Darjeeling by December 1841, where they settled. The tea garden at Ālubārī or Aloobari (Nepali *ālubārī* आलुबारी 'potato garden') was also first planted in 1852. In 1856, just one year before the Indian Mutiny, the commercial exploitation of these early tea gardens began in earnest. In that year, Ālubārī was taken into operation by the Kurseong and Darjeeling Tea Company, and the original tea garden on the Lebong spur was established as a commercial entity by the Darjeeling Land Mortgage Bank.

In 1859, the Dhutaria or Dooteriah tea garden was established by Dr. Brougham, and that same year the Makaibari (Nepali *makaibārī* मकैबारी 'maize garden') tea estate between Kurseong and Pankhabari was opened by captain Samler, who had previously commanded a group of Gurkha soldiers.[99] That year Samler sold or willed Makaibari to his young friend Girish Chandra Banerjee (*Giriś Candra Byānārjī* গিরিশ চন্দ্র ব্যানার্জী), whom the captain had befriended several years before, after the young Bengali had run away from home at age fourteen and sought refuge on a British base. As a consequence, Makaibari became the first tea garden to be owned by an Indian.[100] Between 1860 and 1864, the four gardens then named Ging, Ambutia,

96 David Field Rennie ('Surgeon Rennie'). 1866. *Bhotan and the Story of the Dooar War*. London: John Murray (p. 259).

97 Lepcha (2013: 7, 62).

98 Lepcha (2013: 7, 64).

99 T. Boaz. 1857. 'Darjeeling', *The Calcutta Review*, XXVIII (LV), Article VIII, pp. 196–226; Lewis Sydney Steward O'Malley. 1917. *Bengal District Gazetteer: Darjeeling*. Calcutta: The Bengal Secretariat Book Depot; E.C. Dozey. 1922. *A Concise History of Darjeeling District since 1835 with a Complete Itinerary of Tours in Sikkim and the District*. Calcutta: N. Mukherjee (With regard to the planting of coffee in Darjeeling district, the *Gazetteer* confuses captain Samler with Mr. William Martin).

100 Jeff Koehler. 2015. *Darjeeling: A History of the World's Greatest Tea*. London: Bloomsbury (pp. 137–138).

FIGURE 9.15
Jaṅg Bahādur Rāṇā जंग बहादुर राणा wearing the prime ministerial crown, which like the Nepalese royal crown, was decorated with droplets of emerald *en cabochon*

Takdāh and Phubsering came to be the plantations of the Darjeeling Tea Company, and the gardens of Takvār and Badamtam came to be run by the Lebong Tea Company.

Within twenty years, the number of tea plantations in the district exceeded one hundred, and the tea industry employed nearly 20,000 labourers, most of whom were migrant workers of Nepalese origin. By settling Nepali migrants in the area from the 1840s, the East India Company were able to consolidate their encroachment upon this southern portion of the territory of the kingdom of Sikkim, within which they had at first obtained permission merely to establish a hilltop sanatorium. Consequently, the entire area was subsequently lost to Sikkim, and ethnic Nepalis gradually came to make up the majority of the population. Today, Darjeeling boasts just over seven dozen estates on 19,500 hectares of land. From the middle of the 19th century, Darjeeling and Kalimpong administratively came to resort under British Bengal by sleight of a clever administrative ruse perpetrated by the colonial authorities.[101]

Nepal's military exploits at this time would bring the country into contact with tea as a cultigen via two entirely different pathways. In 1841, Vīr Narsiṃha Kũvar वीर नरसिंह कुँवर, the son of a distinguished *kājī* काजी, made his debut at the royal court at Kathmandu, where he adopted the name Jaṅg Bahādur Rāṇā जंग बहादुर राणा. He orchestrated the Kot Massacre कोत पर्व in 1846, and in the wake of this bloodbath he seized power as the first hereditary prime minister of the Rāṇā dynasty, reducing the hereditary kings of Nepal to a puppet monarchy. The rise of the Rāṇā regime in Nepal coincided with the decline of imperial China.

101 Since Darjeeling and Kalimpong have never in any cul-

The twelfth tributary mission from Kathmandu to Peking in 1847 was led by *kājī* Surath Siṃha Pant सुरथ सिंह पन्त, who died of illness on the return journey, as did the young Chinese interpreter, Rām Nārāyaṇ राम नारायण, and the second in charge, *sardār* Ahivarṇa Basnyāt अहिवर्ण बस्न्यात. Yet the mission was fruitful from the perspective of the new regime in Kathmandu, for the Manchu court had recognised as the legitimate ruler of Nepal the infant king Surendra Vikram Śāh सुरेन्द्र विक्रम शाह, the puppet monarch whose father, king Rājendra Vikram Śāh राजेन्द्र विक्रम शाह, had been forced to abdicate and was put under lifelong house arrest by Jaṅg Bahādur Rāṇā.

Another benefit of the twelfth quinquennial mission to Jaṅg Bahādur Rāṇā were the tidings that the Nepalese prime minister gleaned about the great demand for opium on the Chinese market. Consequently, the thirteenth mission from Kathmandu to Peking in 1852, led by *kājī* Gambhīr Siṃha Adhikārī गम्भीर सिमह अधिकारी, brought along a bountiful supply of opium for sale, exempted from confiscation as well as from excise duty by virtue of diplomatic privilege, nor did this overland cargo incur the heavy maritime duty of opium transported by sea. Unlike the twelfth mission, the Nepalese emissaries were consequently not quite well received in China in 1852, yet, just like on the preceding mission of 1847, the leaders of the mission died of illness on the return journey.

tural or linguistic sense constituted Bengali territory, the Gorkha National Liberation Front was established in 1980, the Darjeeling Gorkha Hill Council in 1987 and *Gorkhā Janmukti Morcā* in 2007. The stated aims have varied from administrative separation from the Indian state of West Bengal and separate statehood for Darjeeling, at one point even adhesion to the kingdom of Nepal and, for some activists, the establishment of a sovereign and independent Gorkhaland. Political agitation, often quite violent, has periodically disrupted daily life in the district and therefore also the tea industry, particularly in 2013 and again in 2017, when only the first flush was harvested.

Nepal had been sending quinquennial missions to the Manchu court since 1792, but this arrangement with Peking did not prevent Jaṅg Bahādur Rāṇā from initiating a new war in March 1855 by invading Tibet shortly after the death of the 6th Paṇchen Lama with the aim of annexing the districts of gÑyaḥ-lam rDzon̂ གཉའ་ལམ་རྫོང་ [ɲālɑ̱m tsɔ̱̃] and sKyid-ron̂ སྐྱིད་རོང་ [kʲīrɔ̃̄] and securing extraterritorial rights for Nepal in Tibet. Whereas China had once come to the aid of Tibet in response to the second Nepalese invasion of Tibet (1791–1792), once again, just as during the first Nepalese invasion of Tibet (1788–1789), China did not in 1855 come to the aid of Tibet during the war.

This time, Nepal was the nominal victor of the war, although Jaṅg Bahādur Rāṇā was unsuccessful in asserting his territorial claims. An arrangement ensued whereby Nepal gained an annual tribute of Rs. 10,000 from Lhasa so that Tibet consequently became a tributary state of Nepal, whilst Nepal continued to send quinquennial tribute missions to Peking. By provision of the peace treaty signed at Kathmandu in March 1856, Nepal officially replaced China as the protector of Tibet, maintained a resident at Lhasa and enjoyed duty-free trade with Tibet.

At the height of the Second Opium War (*gerebatur* 1856–1860) and in sequel to this most recent Nepal-Tibetan war, the quinquennial mission from Kathmandu to Peking scheduled for 1857 did not take place. Instead only an *arjī* अर्जी 'missive' was dispatched to the Manchu emperor Xiánfēng 咸豐 without accompanying presents. The mission scheduled for 1862 was likewise cancelled due to turmoil in Tibet and the Tàipíng rebellion in China. The fourteenth mission scheduled for 1867 was undertaken in 1866, a year early, led by *kājī* Jagatser Sijāpati जगत्सेर सिजापति. The Nepalese emissaries were turned back near Chéngdū 成都 on the Sino-Tibetan border, ostensibly because of an uprising in Chinese Turkestan. Like the preceding mission in 1852, the Nepalese diplomats travelled with a huge supply of opium, but this time they managed to sell only half of their cargo. The emissaries from Kathmandu were poorly treated and sent

home humiliated. Several members of the delegation died in eastern Tibet. The mission scheduled for 1872 was cancelled when emperor Tóngzhì 同治 could not guarantee safe passage all the way to Peking.

After the Nepal-Tibetan war (*gerebatur* 1855–1856), not only had Nepal formally assumed the role of the protector of Tibet, but the quinquennial visits to Peking had also lost the character of tributary missions. Instead, these visits from Kathmandu had principally begun to serve a more lucrative purpose. In fact, the fifteenth mission in 1877, led by *kājī* Tej Bahādur Rāṇā तेज बहादुर राणा, had to overcome numerous bureaucratic obstacles on the way in order to arrive in Peking finally in December 1879. Although the emissaries bore an *arjī* अर्जी 'missive' from king Surendra to the emperor Guāngxù 光緒, the many impediments laid on their path by Chinese officials were prompted by the cargo of opium which the Nepalese delegation was carrying. The mission proved lucrative to the Nepalese, but their goods were stolen on the return journey. In 1882, the Chinese managed to put off the next quinquennial mission by the Nepalese, ostensibly due to death of the empress dowager Cí'ān 慈安 the year before.

The sixteenth Nepalese mission, scheduled for 1887, already set out eagerly in 1886, led by *kājī* Raṇ Vikram Rāṇā रण विक्रम राणा and once again bearing a copious supply of opium. Since the delegates also received a daily allowance from the Chinese government for each day that they remained within the Chinese empire, the emissaries took nearly five years to complete their journey and return to the Kathmandu valley. The seventeenth mission, led by *kājī* Indra Vikram Rāṇā इन्द्र विक्रम राणा, left Kathmandu two years late in 1894, arrived in Peking in July 1896 and was likewise involved in trading of various kinds. In 1901, the Chinese managed to forestall the next quinquennial mission on the grounds of a famine in Shǎnxī 陝西 and Shānxī 山西. The eighteenth and last mission from Kathmandu to Nepal, led by *kājī* Bhairav Bahādur Gaḍhtolā भैरव बहादुर गढतोला, set off in 1906 and arrived in Peking in 1908, where they discovered that the market for opium had become more difficult due to the increasing enforcement of restrictions.[102]

By the time that Candra Śamśer Jaṅg Bahādur Rāṇā श्री ३ चन्द्र शमशेर जंग बहादुर राणा (*obtinebat* 1908–1929) became prime minister, the quinquennial missions from Kathmandu to the Manchu court were perceived in Nepal as mere courtesy visits meant to maintain ties with Peking and, surreptitiously, to cash in on the opium trade. From the perspective of Kathmandu, these missions did not represent a tribute, nor did they compromise Nepal's sovereignty. Moreover, by this time all expenses were borne by the Chinese. The Nepalese government interpretation of the state of affairs is recorded in the correspondence between the prime minister and the British resident at Kathmandu, John Manners Smith.[103] In 1912, the Qīng dynasty fell, after which both Nepal and its protectorate, Tibet, ceased to be tributaries to China.

In 1863, Jaṅg Bahādur Rāṇā began to conscript Limbus into the Gorkhali Army on a large scale. Because hundreds of Limbu conscripts died during an outbreak of cholera, many Limbu families, fearing conscription, fled to Darjeeling. Meanwhile further east in upper Assam, vast swathes of territory were deforested from the 1840s to make way for tea plantations. Gorkhali martial expansion had brought Nepal into contact with tea cultivation on the lands of the East India Company. However, the first tea cultivars in eastern Nepal did not come from Darjeeling, at least according to one local legend. According to this tradition, Nepalese emissaries on a quinquennial mission to China received tea seeds by way of a return gift for the Nepalese prime minister. Jaṅg Bahādur Rāṇā then passed the tea seeds on to his *samdhī*,[104] the *kājī* Hemdal Siṃha Thāpā हेमदल सिंह

102 Manandhar (2001).

103 Matteo Miele. 2017. 'British diplomatic views on Nepal and the final stage of the Ch'ing empire (1910–1911)', *Prague Papers on the History of International Relations*, 2017 (1): 90–101.

104 The Nepalese kinship term *samdhī* सम्धी means that

थापा, who passed these seeds on to his son Gajarāj Siṃha Thāpā गजराज सिंह थापा, who at the time was the *baḍā hākim* बडा हाकिम or 'governor' of eastern Nepal.

The problem with the story would appear to be chronological in nature. The first two quinquennial missions during the reign of Jaṅg Bahādur Rāṇā returned to Kathmandu in March 1849 and in May 1854, long before Gajarāj Siṃha Thāpā married the prime minister's eldest daughter Badan Kumārī बदन कुमारी. The aborted mission of 1866 was turned back at Chéngdū, whereas the mission of 1879 returned to Kathmandu only in June 1882. By the 1860s, the tea gardens in Darjeeling were already flourishing, and the idea to cultivate tea in Nepal was therefore doubtlessly inspired by the British tea plantations. Today near Mirik, the tea plantations straddle the border between Nepal and the formerly Sikkimese lands of Darjeeling district, forming an unbroken stretch of cultivated land.

However, it cannot be excluded that the first tea plants of the oldest Nepalese tea plantations at Soktim and Ilām did indeed arrive via the Chinese route, in accordance with local tradition.[105] Perhaps tea seeds from the quinquennial mission of 1854 or even from the aborted mission of 1866 were first planted in the Kathmandu valley before new seeds were given to Gajarāj Siṃha Thāpā. As a plant species, tea appears to have already been present in Nepal before any commercial tea plantation was founded in the east of the country and even before Jaṅg Bahādur Rāṇā ever came to power. Even earlier, through botanical sleuthing in the Kathmandu valley, the first British resident, Edward Gardner, had discovered a tea plant in a palace garden. Gardner first reached Kathmandu in April 1816, one month after the Treaty of Sugaulī, and the following year he sent this plant to Calcutta.[106]

The fact that the name reportedly attached to this specimen was recorded as a Newar phytonym suggests that the palace garden where he found the plant may have been the residence of former Malla royalty or nobility, or perhaps the gardener was just a Newar who happened to be employed in one of the valley's opulent Rāṇā palaces. A study of the surviving letters written by Gardner to Wallich, which are kept at the Calcutta herbarium, might help to shed more light on the question. We may never know the provenance of the tea tree in the palace garden and whether the tea tree was the sole specimen in a nobleman's arboretum or whether the tea tree had been planted as a medicinal plant or an ornamental specimen.

The original Ilām tea factory, established in 1878, remained operational until the year 2002, at which time the legacy Nepalese tea industry underwent a formidable transformation.[107] In recent years, Nepalese tea has undergone a boom in both tonnage and quality. Nepal produced over 5,000 tonnes of tea in the year 2000, around 12,500 tonnes in 2005, over 16,000 tonnes in 2010, and cur-

Hemdal Siṃha Thāpā was the father of the husband of the daughter and eldest child of Jaṅg Bahādur Rāṇā. A corresponding kinship term сват *svat* exists in Russian. The marriage took place in the year 1860.

105 The source is the genealogy and the *vaṃśāvalī* वंशावली of oral lore of the illustrious Thāpā family. Through the marriage to the daughter of Jaṅg Bahādur Rāṇā, Gajarāj Siṃha passed his father-in-law's first name Jaṅg as a middle name on to his son, whom he named Harka Jaṅg Thāpā, who begat Keśar Jaṅg Thāpā, who begat Lava Jaṅg Thāpā, who begat Ghan Jaṅg Thāpā, who begat Subāś Jaṅg Thāpā. I cordially thank Esha Thapa (*Īśā Thāpā* ईशा थापा), the sister of Subāś Jaṅg Thāpā, and Kanak Mani Dixit (*Kanak Maṇi Dīkṣit* कनक मणि दीक्षित), by whose gracious courtesy the genealogy and historical information were provided.

106 Mark Watson. 2008. 'Edward Gardner, the lost botanist of Nepal', *The Britain-Nepal Society Journal*, 32: 18–22.

107 Chandra Bhushan Subba. 2004. 'Nepal tea: The flavour from the Himalayas', ICOS, 2: 824–825. A sign board erected by the Ilam municipal government claims that the first tea garden was planted in the Nepalese year 1920, which corresponds to the Gregorian year 1863, three years after the marriage of Gajarāj Siṃha Thāpā to Badan Kumārī Rāṇā. The first tea factory purportedly came into operation fifteen years later, in 1878 (sign erected at Soktim tea estate by the Ilam municipal government: 'Nepāl mā sarvapratham ciyākhetī ko prārambh Vi. Sā. 1920 dekhi Ilām bāṭa …', *Ilām ko gaurav, Ilam ko ciyā—paryaṭan pravardun kā lāgi Ilām Nagar Pālikā bāṭa tayār garieko*).

rent annual output is in excess of 20,000 tonnes. Tonnage does not say everything. Today many African countries produce far more tea than Nepal, but Nepal produces exquisite teas of inordinately greater merit and value than the mountains of fully oxidised CTC shreddings produced in many other countries.

Nepal produces highly sophisticated artisanal and hand-rolled green teas and various flushes which rival the best teas that Darjeeling can produce. It is as if Nepalese tea entrepreneurs at the turn of the millennium had suddenly taken to heart what Robert Fortune had advised in 1852.

> ultimately the Himalayan tea must be made by the natives themselves; each native farmer must learn how to make tea as well as how to grow it.[108]

In recent decades, worldly Nepalese tea entrepreneurs, many of whom were educated in Darjeeling or at élite schools in the Kathmandu valley, have sought out and undertaken to apply traditional tea manufacturing knowledge from Japan, Táiwān and China and begun systematically to implement this know-how in one of the world's finest tea *terroirs*.

The Nepalese have already managed to produce their own local renditions of both *sencha* and Dragon Well tea. Nepalese *sencha* is grown organically at an altitude of 1500 m in the hills surrounding Jasbīre जसबीरे in Ilām इलाम district in eastern Nepal and made following the traditional Japanese method. The late major Dilip Rai near Paśupatinagar was the first one to acquire Japanese steaming machines and to attempt to make *sencha* in Nepal. A fine gunpowder tea called Green Pearl is organically grown at elevations between 1950 and 2350 metres in the Sandakphu tea gardens of eastern Nepal. The Śrī Antu श्री अन्तु tea estate produces its own rendition of Dragon Well tea in Ilām district, organically grown at an elevation of 1500 metres atop the Sandakphu range between Nepal and Darjeeling, and artisanally manufactured following the traditional Chinese procedure.

Nepalese producers have excelled in their handcrafted green teas and in their white teas such as the fragrant Nepali Silver Needles, which in quality proudly rivals the renowned White Fur Silver Needle (*báiháo yínzhēn* 白毫銀針) of Fúdǐng 福鼎, as knowledgeable Japanese and Chinese tea connoisseurs have discovered, who have in recent years avidly taken to purchasing the Nepalese teas. The exquisite Nepali Silver Needles tea is produced exclusively from the finest tea buds at Śrī Antu श्री अन्तु gardens atop the Sandakphu range. This tender tea contains no fully grown tea leaves, merely the soft silvery buds covered in white hair, and yields a sweet and thick pale golden liquor. Other gardens in eastern Nepal have now also begun to produce their own Silver Tips white teas. Adapting and modifying a Far Eastern technique, some tea gardens in Ilām district have produced Golden Needle tea, made from one leaf and a bud which are then lightly roasted. The golden liquor has a robust malty flavour with fruity notes.

Produced in some years and not in others, the aromatic green tea leaves of 'Kanchenjunga' tea are carefully rolled by hand and certified as organically grown by Australia's National Association of Sustainable Agriculture and as meeting European Union standards for organic cultivation by the International Federation of Organic Agriculture. Grown at an altitude between 1300 and 1800 metres in Pāñcthar पाँचथर district, the name of the tea derives from nearby Kangchendzö'nga གངས་ཆེན་མཛོད་ལྔ་, our planet's third highest mountain peak. The tea has only been produced in certain years because the manufacturing process is labour-intensive, but it is clearly a mistake whenever this fine green is not produced. Some Nepali tea makers have even begun to experiment with oolong tea manufacture, but have not, at the time of writing, yet managed to produce a satisfactory oolong, but this may be only a matter of time.

Many of the exquisite new Nepal teas are produced in the easternmost districts of Ilām and Pāñcthar are exquisite, but some claim that the

108 Fortune (1852: 393).

real tea flavour belt in eastern Nepal lies further west in the hills between Hile हिले and Dhankuṭā धनकुटा at elevations up to 2200 metres, where the *Jun Ciyābārī* जुन चियाबारी 'moon tea garden', the *Gurā̃se* गुराँसे 'rhododendron' tea estate and the *Kuvāpānī* कुवापानी 'cistern water' tea estate produce fine organic teas from selected *sinensis* cultivars.[109] Amongst the sophisticated new generation of Nepalese tea entrepreneurs in this exquisite *terroir* are the brothers Lochan (*Locan* लोचन) and Bachan Gyawali (*Bacan Jñavālī* बचन ज्ञवाली) of *Jun Ciyabārī* जुन चियाबारी, with over 75 hectares of land under cultivation. Steeped in their love for Japanese tea culture and Chinese tea traditions, these two gentlemen produce tea which is much sought after by prime international tea dealers as well as by chefs for its use in fine gastronomy. They were the first to import machinery from Táiwān and the first in Nepal to do bulk vacuum sealing of tea with Japanese machines.

In the same area, the *Gurā̃se* गुराँसे estate produces first and second flushes of organically grown black teas that exude woody, fruity and floral fragrances with citrus notes, and their autumn flush yields the full-bodied taste favoured by many English tea drinkers. The *Kuvāpānī* कुवापानी estate produces a lovely first flush of beautiful unbroken, hand sorted leaves. Since the lush forests of this area had already been largely deforested for firewood and timber under augmenting population pressure, the tea gardens were not the prime cause of deforestation historically in this area, unlike in much of Darjeeling. In fact, the tea gardens have helped to conserve residual forest cover and reforest through the planting of ever more shade trees, thus protecting the lovely hills around Hile from the slow concrete urban creep that threatens many other areas in Nepal as well.

Many new Nepali tea makers have been replacing their Indian equipment with machines from Japan or China. The picking and sorting is still done by hand, but nowadays recruiting enough dedicated labour presents a challenge, and so the hand processing of artisanal tea such as Ilām's rare hand-rolled 'Kanchenjunga' can only be realised on rare occasions, but the promise is there. However, not all Nepalese tea is fine leaf tea, known in English tea parlance as 'orthodox' tea. Tea cultivation in Jhāpā district in the eastern Nepalese Terai was initiated by private entrepreneurs in 1959. The Nepal Tea Development Corporation, established in October 1966, planted tea both in the Terai and in the hills of Ilām district. Whereas the tea estates in the hills continue predominantly to produce fine leaf tea, the tea in the Terai is used to produce black CTC tea, a significant proportion of which is supplied by small holders.

There is irony in the fact that both in Nepal and in Darjeeling, the average Nepali is most familiar with the Indian tea beverage that first arose in Assam and Darjeeling, using boiled black tea, milk, plenty of sugar, black cardamom, true cardamom, cloves and cinnamon. When such tea drinkers see a tea lover drinking an unadulterated infusion of fine tea, they are often heard to exclaim in sheer puzzlement *raṅg mātrai* रङ्ग मात्रै 'only colour'. This word choice is revealing in that low-grade CTC tea used to make Indian tea has precious little taste of its own, and does in fact merely add colour and astringency to a sugary milk drink. Yet eastern Nepal and Darjeeling produce some of the finest leaf teas, picked and handcrafted predominantly by Nepali pluckers and tea artisans. The colour of their liquor is quite light, and so the most aromatically delicate teas of the region naturally impart very little colour to the infusion, but plenty of fragrance and taste.

At 2075 metres, Darjeeling itself was just a tiny Lepcha village, nearby which Gorkhali troops had left the remnants of an army base at the time of their campaign into this heavily forested part of Sikkimese territory. Other than the sanatorium, the first commercial British interest in Darjeeling were the dense and lush jungles and the colossal trees

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109 In Nepali, a *kuvā* कुवा traditionally designates a shaded naturally occurring outdoor cistern, where clean potable mountain water accumulates. The name *gurā̃se* गुराँसे is actually the adjectival form of *gurā̃s* गुराँस 'Himalayan rhododendron', and *jun ciyābārī* जुन चियाबारी 'moon tea garden' is usually romanised as 'Jun Chiyabari' tea garden.

which blanketted these primordial woodlands. Tea gardens were planted on areas that had been rapaciously logged. The Gorkhali military raids had failed to make these pristine Lepcha lands part of the nascent Nepali state. Ironically, it was the British who, with their labour recruitment policies for the tea gardens, from the second half of the 19th century demographically transformed this part of former Sikkimese territory culturally and linguistically into a part of what has sometimes been described as 'greater Nepal'. Some tea estates preserve the toponymical legacy of the Lepcha homeland.

Originally founded in 1864 under the name 'Bara Ringtong', the 585-hectare Margaret's Hope is one of Darjeeling's oldest tea estates. In the original place name, the first element is the Nepalese adjective *baḍā* बडा 'big', whereas the second word is the native Lepcha toponym *ríngtóng* ᰛᰧᰵᰊᰨᰵ [riŋt̪ɔŋ] 'place of deliberation', denoting a traditional place of assembly and debate.[110] The tea estate was renamed after the first owner's daughter in the 1870s. The famous Sidrabong tea garden, established in 1885, originally preserved the Lepcha toponym *sadyerbóng* ᰠᰌᰤᰬᰲᰓᰨᰵ [sadʲerbɔŋ] 'lower lying area where thunder struck'. However, today the place name has locally been corrupted as Sitarabong,[111] and the tea garden itself has been renamed *Ārya Tārā* आर्य तारा. The estate has 300 acres under cultivation at elevations between 900 to 1800 metres. Founded in 1899, the moist Goomtee tea estate grows Chinese *sinensis* varietals at elevations between 900 to 1500 metres. At 1950 metres, the Mim tea estate in eastern Darjeeling has cool weather and slow plant growth, and particularly its first and second flushes are justly famous. The Soom tea estate produces lovely teas at an elevation of 1500 metres on steep slopes.

In Darjeeling, the first flush is picked from mid March to April, and the second flush is picked in May and June. Between July and September the monsoon flush is picked, and the autumnal flush is the plucking harvested from October to November. Roughly between the first and second flush, depending on the garden, the so-called muscatel teas are harvested, which have an aroma evocative of the scent of muscatel grapes. Many of the fine first flushes of Darjeeling have also been described as exuding a muscatel flavour. In 2014, the *Times of India* ran an article under the headline 'Darjeeling's Makaibari becomes most expensive tea in the world', a dubious endorsement of doubtful veracity in view of the number of Chinese teas that also sell at ridiculous prices.

Tea estates are constantly changing hands, and a detailed local history of the Darjeeling plantations and other tea localities, woven into an ebullient narrative, would be of great interest, though this would also present a historiographically challenging task. For example, the highly reputed Ambootia tea gardens below Kurseong have been operated since 1987 by the Bansal family, with Sanjay Prakash (*Sanjay Prakāś Bãsal* संजय प्रकाश बंसल) and Anil Bansal (*Anil Bãsal* अनिल बंसल) currently managing the grand estate. This inspired duo have transformed the plantation into a model organic farm by the standards of the Food and Agriculture Organisation of the United Nations and won certifications from every significant organic and sustainable agriculture certification entity. The management also involves the tea pluckers in the company so that labourers become stakeholders in the enterprise.

Swaraj Kumar 'Rajah' Banerjee (*Sbarāj Kumār Byānārjī* স্বরাজ কুমার ব্যানার্জী) sold a 90% stake of the justly famous and likewise biodynamically certified organic Makaibari tea estate to Dipankar Chatterjee's Luxmi (*Lakṣmī* लक्ष्मी) group in 2014. Goomtee and the now quite famous Jungpana (*Jãgpāna* जंगपाना) tea estate were established by Henry Montgomery Lennox in 1899, sold by a subsequent British owner to the then ruling Rāṇā family of Nepal at the time that the republic of India emerged as a nation state in 1947, and then acquired by the Kejriwal family in 1956 and cur-

110 Lepcha (2013: 79).

111 Lepcha (2013: 72). Plaisier (2007: 100, 239) recorded Lepcha 'thunder' as *sader* ᰠᰌᰬᰲ.

FIGURE 9.16
Empoasca vitis, one of the species of green leaf hopper which helps produce the muscatel aroma of certain teas
PHOTO COURTESY OF BOB KNIGHT

rently managed by Shantanu Kejriwal (*Śāntanu Kejrīvāl* शान्तनु केजरीवाल).

High prices may often very well reflect high quality, but do not necessarily represent value for money. Nonetheless, the high-end teas of the famous Makaibari, which is over 155 years old, are truly exquisite. In 2014, the estate sold its handcrafted Silver Tips Imperial at $1,850 per kg to three buyers, Hampstead Tea & Coffee of London, Makaibari Japan Ltd. and Eco Prima in the United States.[112] Although India's tea annual yield is far in excess of 900,000 tonnes, the 87 tea plantations in Darjeeling district, situated at elevations from 400 to 2500 metres, have annual production that hardly exceeds 10,000 tonnes. However, perhaps four times that tonnage of 'Darjeeling' tea is marketed annually, some of these teas actually being blends from other parts of India and some perhaps containing a modicum of tea from Darjeeling.[113]

Darjeeling leaf teas tested were shown to contain twelve main aroma compounds, including linalool, linalool oxide, 1,2,3,4-methyl salicylate, geraniol, benzyl alcohol, 2-phenylethanol, 3,7-dimethyl-1,5,7-octatrien-3-ol, 2,6-dimethyl-3,7-octadiene-2,6-diol, cis-3-hexenol and trans-2-hexenol. The relative proportions of these constituents in the tea do not correlate with the elevation of the garden, and must therefore be a function of the *terroir* of the garden, the method of manufacture or some other factors.

Astute buyers come to Darjeeling each year in search of a first flush or a second flush of a particular garden because of the characteristic aroma of the tea from that particular portion of the lovely hill tracts. Yet few tea buyers suspect that the fragrance of which they are so enamoured in Darjeeling is partly the work of the tea green leafhopper or green fly species *Empoasca vitis* and *Empoasca flavescens*, which have piercing and sucking mouth parts. Both the nymphs and the adults do damage to the tea leaves. The special mellow muscatel flagrance for which Darjeeling tea is justly famous is attributed to the key aromatic compound 2,6-dimethyl-3,7-octadiene-2,6-diol and the dehydration compound 3,7-dimethyl-1,5,7-octatren-3-ol, both of which are, rather surprisingly, formed as a result of the infestation of the tea leaves by these very tea green leafhoppers.[114] In

112 Ritwik Mukherjee. 2014. 'Darjeeling's Makaibari becomes most expensive tea in the world', *Times of India*, Calcutta, 6 September 2014.
113 Christine Dattner. 2008. *Thé*. Paris: Flammarion (p. 36).
114 Michiko Kawakami, Kaoru Ebisawa and Lakshi P. Bhu-

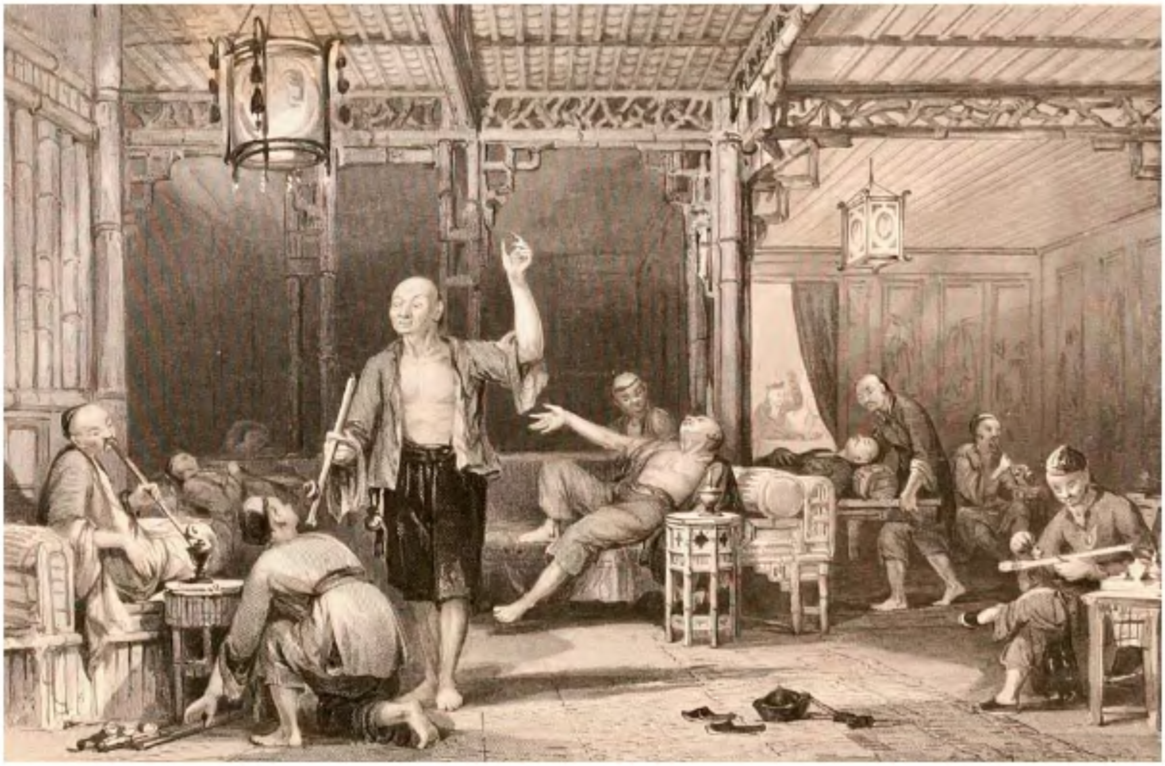

FIGURE 9.17 A Chinese opium den, engraving by George Paterson, published in Thomas Allom. 1858. *The Chinese Empire Illustrated*. London: London Printing and Publishing Company.

a similar fashion, attacks on tea leaves perpetrated by the moths known as tea tortrices trigger the release of the compounds 3-hexen-1-ol, linalool, α-farnesene, benzyl alcohol, benzyl nitrile, indole, nerolidol and ocimenes in high amounts, emitted directly from the damaged sites on the plant.[115]

Gorkhali military campaigns in the late 18th and early 19th century and British aggression and encroachment during the 19th century had whittled away at Sikkimese territory. The famous tea gardens of Darjeeling had sprung up in what had become a booming but illicit British enclave within the territory of the kingdom of Sikkim. When the British finally left the Indian subcontinent in 1947, Sikkim had been reduced to a rump state in its historical heartland, comprising less than half of the original territory of this once proudly sovereign polity. Tea was first planted in the reduced Sikkim in the 1960s, and the most prominent plantation is the 177 hectare gardens of Ṭemī टेमी tea, established in southern Sikkim in 1969. Meanwhile in India, Indirā Gāndhī eagerly donned the mantle of imperialism and undertook to pursue even more aggressive colonialist ambitions against the kingdom of Sikkim than the East India Company ever had. After financing and fomenting agitation in the country for years, she orchestrated the annexation of Sikkim in 1975. As a consequence, a new nation state swallowed up a smaller but older one.[116]

yan. 2010. 'The diversity of Darjeeling tea flavour', *ICOS*, 4, PR-P-75.

115 Fang Dong, Ziyin Yang, Susanne Baldermann, Yasushi Sato, Tatsuo, Asai and Naoharu Watanabe. 2010. 'Plant volatile compounds involved in herbivore-induced intra-communications in tea (*Camellia sinensis*) plants', *ICOS*, 4, PR-P-81.

116 Sunandā Kiśor Datta-Rāy. 1984. *Smash and Grab: Annexation of Sikkim*. New Delhi: Vikas Publishing House; Nari Kaikhusaro Rustomjī. 1987. *Sikkim: A Himalayan*

The terroir in Darjeeling, Sikkim and eastern Nepal is phenomenal, and many tea estates in Darjeeling, Sikkim and Nepal have recently come to be certified as 'biodynamic' or 'organic' by European or American certifying agencies. Not all of the tea harvested in these hills is fine leaf tea, but the finest leaf teas are both picked and sorted by hand and, in some cases, even crafted by hand. As Lù Yǔ 陸羽 encouraged us to do, we must assess each tea ourselves with our own noses and taste buds. Darjeeling is also famous for its so-called toy train, a narrow gauge 610 mm train, which was built between 1879 and 1881 and has been operated by the Darjeeling Himalayan Railway ever since, taking people on a scenic 78 km ride from Siliguri up to Darjeeling. Another salient element of local lore is the earthquake which struck the town of Darjeeling in 1898.

Opium Clippers and Tea

In the 18th century, even on the fleetest of Dutch ships under ideal conditions, a shipment of tea took at least half a year to reach Europe. The Dutch merchantman *Coxhorn* which set sail at Canton in the first days of January 1730 dropped anchor at Tessel on the 13th of July in what was considered superb time.[117] A century later, the primacy of the Dutch in the tea trade was a thing of the past, and meanwhile the designs of ships had evolved in a spectacular fashion.

After the British crown had decentralised the control of tea imports in 1834 by abrogating the monopoly of the East India Company, private companies could compete to bring British tea drinkers the freshest tea from China. East Indiamen from England set sail from Britain in January, picked up the southwest monsoon after rounding the Cape of Good Hope in order to arrive in China in September. Yet East Indiamen were in time replaced with vessels of a newer and sleeker design. The return journey would commence in December and might conclude as late as September. The Napoleonic wars, which found the Americans allied with France against their former mother country, had compelled the Americans to develop fast ships to outrun the British, and the most notorious was the schooner-rigged privateer named *Prince de Neufchatel*, which the British finally captured in 1814.

A particular Indian commodity was more lucrative than tea, however. In 1830, the British launched the opium clipper *Red Rover*, which had been modelled after the *Prince de Neufchatel* and trafficked opium from Calcutta to Canton at unprecedented speed for the drug smugglers Jardine, Matheson & Co., who were eager to speed up the opium run. The era of sleek streamlined opium clippers had begun. Shipping opium to China and tea from China at high speed was of even greater interest to the Americans, who were even further removed from the tea heartland. The first American clipper, the *Ann McKim*, was designed by Isaac McKim and built in Baltimore in 1833.

After McKim's death in 1837, the *Ann McKim* was acquired by the tea traders Howland and Aspinwall.[118] In Scotland, the even faster *Scottish Maid* was launched at Aberdeen in 1839. In America, John Willis Griffiths later designed the *Rainbow*, which was completed in 1845. She embarked on her maiden voyage to China in February and returned to New York in September. On her second voyage, she reached Canton in 92 days, and her return voyage had lasted 88 days. The Americans were also later able to enter the China shipping trade to Britain after the British repealed the Navigation Laws in 1849, and the first American clipper to deliver tea from China directly to Britain was the *Oriental*, which arrived in English waters in late 1850 with 1,600 tonnes of tea.[119]

Tragedy. New Delhi: Allied Publishers; Andrew Duff. 2015. *Sikkim: Requiem for a Himalayan Kingdom*. Edinburgh: Birlinn.

117 ter Molen (1979: 29).

118 Ukers (1935, Vol. 1, pp. 87–88).

119 Glenn A. Knoblock. 2014. *The American Clipper Ship,*

FIGURE 9.18 The *Taeping* and the *Ariel* during the Great Tea Race of 1866, painted in 1926 by John Robert Charles Spurling, 46.9 × 63.5 cm, oil on canvas, Vallejo Gallery, Costa Mesa, California

From 1854, the annual tea clipper races were held every April, with ships leaving Fukien ports and the winner being the one to reach England in record time. The competition stimulated the development of the fastest sailing ships then known, and the opium clipper doubled as the tea clipper. This interesting period in shipping began just before the First Opium War (*gerebatur* 1839–1842) and came to an end within a decade after the conclusion of the Second Opium War (*gerebatur* 1856–1860). The ships delivered opium from Smyrna and Calcutta to China as fast as possible and then delivered tea to consumers in Europe in the shortest possible time. At the height of the frenzy for fresh tea, the Great Tea Race of 1866 was held.

Tea clippers set sail in late May 1866 from the Pagoda Anchorage on the Mǐn 閩 river, just downriver from Hoksieu 福州 (*hok-tsiu* [hɔk˧ tɕiu˥]) or 'Foochow' through the Sunda Strait, around both the Cape of Good Hope and the Azores to London. The British clipper *Taeping* won the media sensation of the Great Tea Race of 1866, docking in London on the 6th of September just minutes ahead of the *Ariel*, with which it had sailed a neck-and-neck course for much of the race. Other famous British clippers included the *Fiery Cross, Serica, Taitsing, Thermopylae, Sir Lancelot, Chaa-sze, Flying Spur, Spindrift* and the now still extant *Cutty Sark*, which was only launched from the Clyde in 1869. Famous American clippers included the *Rainbow, Sea Witch, Houqua, Stag Hound, Great Republic, Lightning* and *Flying Cloud*. This colourful period in the history of shipping ceased abruptly in 1869 with the opening of the Suez Canal.

1845–1920: A Comprehensive History, with a Listing of Builders and their Ships. Jefferson, North Carolina: McFarland & Company (p. 29).

British Espionage in the Middle Kingdom

One of the myths about the history of tea is that Robert Fortune of Kelloe in Berwickshire discovered for the West that green tea and black tea came from one and the same species. Many popular books on tea repeat this historical falsehood, recounting that Fortune was the first to understand that black and green tea came from the same tree and that he was the first to bring tea bushes from China to India.[120] Fortune was a swashbuckling careerist at the height of British colonial interventions in China, but he was not a particularly well-informed botanist. Fortune makes it amply clear in his writings that even at the time of his second trip to China he personally still lived under the impression that *Thea viridis* and *Thea bohea* were different species of plants, even though better informed tea specialists of the period had long known that this was not so.

Jonas Hanway, the virulent opponent of tea in England, was misled by the writings of François Valentyn. The great Linnæus was subsequently misled both by Valentyn's writings and by John Hill. Dr. Samuel Johnson promptly identified Hanway as the culprit responsible for resurrecting the misconception of two distinct tea tree species in the Anglo-Saxon world:

> He begins by refuting a popular notion that *Bohea* and *Green Tea* are leaves of the ſame ſhrub, gathered at different times of year. He is of opinion, that they are produced by different ſhrubs.[121]

As we saw in Chapter One and earlier in this chapter, knowledgeable botanists, even in England, were at this time already aware that both green tea and black tea derived from the same plant. Even Chinese tea merchants had by this time already long been quite candid to Europeans about this fact.[122]

In the autumn of 1842, after the peace with China had been concluded, Robert Fortune was appointed Botanical Collector to the Horticultural Society of London. He set sail for China in the Spring of 1843 with the aim of ascertaining everything he could about the cultivation and manufacture of tea. He went to China, shaved his head, grew a pigtail and donned Chinese dress before leaving Shanghai so that he could travel through the Middle Kingdom masquerading as an indigene.[123] He reported that in the Chusan (*Zhōushān* 舟山) group of islands in the Hángzhōu bay …

120 e.g. Barrie & Smyers (1999), Sarah Rose (2009), Zhang & Hunter (2015), etc.

121 Johnson (1757: 161).

122 Carl Ritter. 1833. 'Historisch-geographische und ethnographische Verbreitung der Theekultur, des Theeverkehrs und Theeverbrauchs, zumal auf dem Landwege, aus dem Süden China's durch Tübet, die Mongolei, nach West-Asien und Europa, über die Urga und Kjachta', pp. 88–108, erstes Heft, zweite Abtheilung « Naturgeschichte und Pharmakognosie », and pp. 215–233, zweites Heft, zweite Abtheilung « Naturgeschichte und Pharmakognosie », in Rudolph Brandes, Philipp Lorenz Geiger und Justus Liebeig, eds., *Annalen der Pharmacie* (Band VI.). Heidelberg: Universitäts-Buchhandlung von C.F. Winter.

123 Fortune's exploits remind me of the young Englishman whom Karma Tshering of Gaselô and I once met in Siliguri on our way from Thimphu to Darjeeling. The jovial and slightly inebriated young man told us that he had inherited a tea garden the name of which he pronounced as if it were written in English as 'Punker Barry'. This turned out to be Paṅkhābārī पंखाबारी tea estate. In all fairness, the name indeed used to be rendered as *Punkabaree* in some of the older English sources. The young gentleman claimed that he had previously had no inkling where Darjeeling was located until he had suddenly come into this inheritance. The young Englishman also told us how he had donned a disguise to get into Bhutan without a visa. He had darkened his face and put on a sari and walked around the marketplace of Phüntsho'ling ཕུན་ཚོགས་གླིང་. In this disguise, the man had to countenance what he perceived to be suspicious looks, although I fancy that the onlookers were just bemused. The tipsy young Englishman told us at the time that with this disguise he had regrettably been 'unable to penetrate into the interior'.

> The green tea shrub (*Thea viridis*) is cultivated every where … Every small farmer and cottager has a few plants on his premises, which he rears with considerable care …[124]

John Ellis had introduced tea to Kew Gardens in 1768, and tea plants were grown in private gardens in England before then. Yet it was trumpetted as a great victory when Fortune sent his botanical specimens to England from Hong Kong in three different vessels. Then in the spring and summer of 1844 and in the summer of 1845, he visited the tea gardens around Ningpo (*Níngbō* 寧波), where black tea was produced.

Fortune not only carried leaf specimens of the plant that botanists had denominated *Thea bohea* from Canton to the area around Zhèjiāng, he also uprooted and carried a living tea plant of the species *Thea bohea* north only in order to compare the *Thea bohea* of Canton and the *Thea viridis* of Zhèjiāng. He observed that the species were similar. In fact, they were one and the same species, but Fortune did not quite cotton on all at once. Still hedging his bets, Fortune announced what he believed to be a momentous discovery.

> There are few subjects connected with the vegetable kingdom which have attracted such a large share of public notice as the tea-plant of China. Its cultivation on the Chinese hills, the particular species or variety which produces the black and green teas of commerce, and the method of preparing the leaves, have always been objects of peculiar interest. The jealousy of the Chinese government, in former times, prevented foreigners from visiting any of the districts where tea is cultivated, and the information derived from the Chinese merchants, even scanty as it was, was not to be depended upon. And hence we find our English authors contradicting each other, some asserting that the black and green teas are produced by the same variety, and that the difference in colour is the result of a different mode of preparation, while others say that the black teas are produced from the plant called by botanists *Thea Bohea*, and the green from *Thea viridis*, both of which we have for many year in our gardens in England.
>
> During my travels in China since the last war, I have had frequent opportunities of inspecting some extensive tea districts in the black and green tea countries of Canton, Fokien, and Chekiang, and the result of these observations is now laid before the reader. It will prove that even those who have had the best means of judging have been deceived, and that the greater part of the black and green teas which are brought yearly from China to Europe and America are obtained from the same species or variety, namely, from the *Thea viridis*.
>
> … I was desirous to ascertain clearly whether the plant was the same species in both places, or whether, as generally believed, they were different … I afterwards took to the green hills of the north, and found, on minute comparison, that it was identical with the *Thea viridis*. In other words, the black and green teas which generally come to England from the northern provinces of China are made from the same species, and the difference of colour, fragrance, &c. is solely the result of the different modes of preparation.[125]

Although Fortune reported that both black and green tea could be produced from *Thea viridis*, he still continued to believe for quite some time thereafter that the *Thea bohea* of Canton was a distinct species from the northern *Thea viridis* of Zhèjiāng. He did claim, however, that the Chinese were able to produce both green tea and black tea from *Thea viridis*.[126]

Fortune's descriptions of the drying process and the parching woks for green teas and the rolling

124 Robert Fortune. 1847. *Three Years' Wanderings in the Northern Provinces of China, including a Visit to the Tea, Silk, and Cotton Countries with an Account of the Agriculture and Horticulture of the Chinese, New Plants, etc.* London: John Murray (p. 68).

125 Fortune (1847: 197–198, 379).

126 Fortune (1852: 273–274).

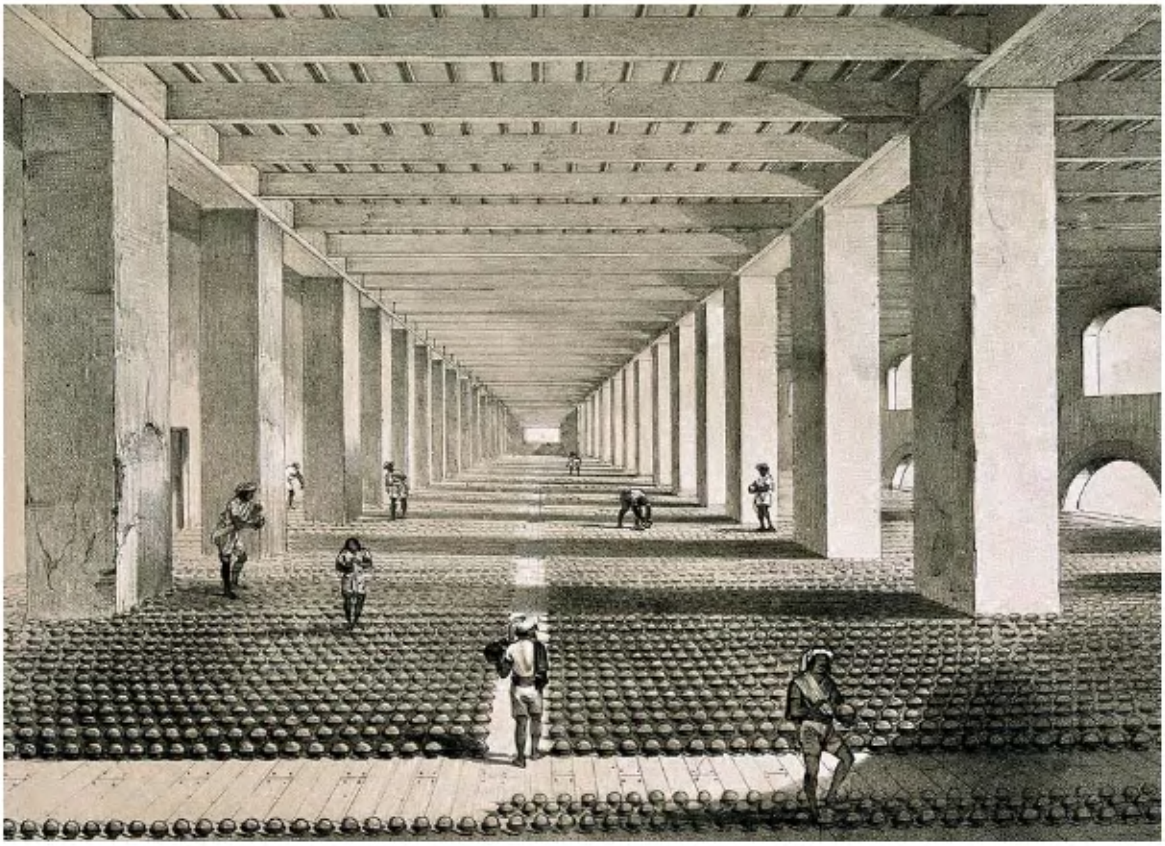

FIGURE 9.19 The storage of balled opium in a stacking room of an East India Company opium factory at Patna, 1851 lithograph, 20.2 × 27.6 cm, by Walter Stanhope Sherwill, published in London by Maclure, Macdonald and MacGregor, Wellcome Library, image № 25037i, London

process for 'Luk-cha' (Cantonese *luk⁶caa⁴* 綠茶 [lʊk ˧ tsʰaː ˨]) belatedly echo the descriptions of Valentyn, Kæmpfer and other early accounts.[127] His account of the manufacturing process for 'Hong-cha' (Cantonese *hung⁴caa⁴* 紅茶 [hʊŋ ˨ tsʰaː ˨]), which is 'our common black tea', is new, however, as was perhaps the genre of tea itself. In 1847, a second edition of his first book was brought out by the same London publisher, containing many passages and enhancements not contained in the first edition published earlier that same year. A comparison of the two editions appears to reveal the author's second thoughts. For example, Fortune enthusiastically recommended:

> The advantages which could result from the successful cultivation of the tea plant in India are immense.[128]

Tea had been grown experimentally in Darjeeling since 1841, and perhaps meanwhile word had reached Fortune after the appearance of the first 1847 edition that the tea garden at Lebong had been established earlier that same year. A recommendation after the fact might represent an attempt to appear prescient, for this suggestion does not appear in the earlier edition.

Perhaps Fortune just sought to bring his prose in line with the policies advocated by the viscount Henry Hardinge, governor general of India, (*ob-*

127 Fortune (1847: 197–219).

128 Fortune (1847, second edition: 221–222).

FIGURE 9.20
In 1887, Gustav Pabst proposed to unite the species that had previously been variously called *Thea sinensis* or *Thea chinensis*, *Thea bohea*, *Thea viridis*, *Thea stricta*, *Camellia viridis* and *Camellia bohea* together under a new unitary species name *Camellia thea*, but in 1935 this new name too would be replaced by the current species name *Camellia sinensis*. In 1832, von Siebold had already rightly pointed out that, on the basis of priority, the sole correct name for this single species should be *Thea sinensis*, a point of view reaffirmed in 1935 by the Royal Botanic Gardens at Kew (Pabst 1887, Band II, Abb. 136).

tinebat 1844–1848), who had advised that 'every encouragement' should be afforded to the cultivation of tea in India. In fact, Hardinge feared that the possible legalisation of opium poppy cultivation in China might deprive the British government in India of its revenue from opium running. What strikes us most today about the second 1847 edition is that Fortune is still convinced at this time that *Thea bohea* and *Thea viridis* are two separate species.

> But were there any doubts of our being able to procure an almost unlimited supply of teas from China, let us turn to our own dominions in India. It may be true that the results of tea cultivation in Assam do not seem to be very satisfactory. All my experience of the tea districts in China goes, however, to show that the north-western districts of the mountains of India—any of the Himalayan mountains—are much better suited for this purpose than the more southern country of Assam. The genuine and best tea plant (*Thea viridis*) is not met with in the south of China at all, and when brought down there does not succeed. Even in Fokien, where it furnishes black teas, it is necessary to plant it high up on the mountains from two to three thousand feet above the level of the sea … In the Himalayas, however, we have every variety of elevation and soil, and the same climate as the most favoured tea districts in China.[129]

In fact, Fortune was unusually slow to glean that *Thea viridis* and *Thea bohea* were one and the same species.

129 Fortune (1847, second edition: 219–220).

Not only had more knowledgeable scholars since the second half of the 17th century known that there was but a single species of tea, even for those who later came to entertain a belief in two distinct species, von Siebold had in 1832 already verified and confirmed that there was but a single species of tea, asserting that the species names *Thea viridis* and *Thea bohea* were therefore obsolete and arguing cogently on the basis of priority that *Thea sinensis* was the sole valid species designation.

In recognition of his picaresque adventures in China, and despite what can only euphemistically be described as the yawning gaps in Fortune's familiarity with the relevant botanical literature, he was rewarded with the enviable position of curator at the beautiful Chelsea Physic Garden form 1846 to 1848. On the 17th of May 1848, the East India Company offered him the mission of going to China yet again to fetch tea plants and seeds and to bring them to Calcutta and then to the Himalayas, protected in the Wardian glass cases recently developed by Dr. Nathaniel Bagshaw Ward in London.

Fortune sailed to Shànghǎi and then arrived at Hángzhōu in September 1848. He travelled up the Yangtze to Ānhuī, visiting tea plantations and tea factories. Then he returned to Shànghǎi in January 1849, where he maintained close ties with Thomas Dent of the British opium trading firm Dent, Beale & Co. Then, Fortune sent 13,000 tea seedlings in the Wardian cases to Calcutta, where the plants arrived in thriving condition in March 1849. Yet by the time they had arrived in the Saharanpur Botanic Garden at the foot of the western Himalayas for planting in June 1849, most plants were dead and rotting. Upon instructions of the Scotsman William Jameson, the inept superintendent of the Saharanpur Botanic Garden, who neither understood nor accepted the science behind the Wardian cases, had had the sealed cases opened at Allahabad.[130]

In the same month that Fortune's shipment of 'green tea plants' perished between Allahabad and Saharanpur, Fortune himself embarked on a journey to the Bohea mountains disguised as a mandarin in silk robes in search of 'black tea plants', which at the time were even more coveted by the British because they would be able to peddle the sugar from their colonies to be drunk with the black tea. In the autumn of 1849, Fortune received the news in Shànghǎi about the complete failure of his shipment of 'green tea plants' to India. Undaunted, Fortune procured over 400 tea bushes, including ostensibly clones grown from cuttings of the famous Big Red Robe (*dà hóng páo* 大紅袍) bushes. In early 1850, he sent his 'black tea plants' to Calcutta, where they were received by Hugh Falconer.

> As soon as I had got all the plants put on board I left Hong-kong again for the north. My object now was to engage some first-rate tea manufacturers for the Indian plantations, to procure a supply of the implements used in the best districts for the manufacture of tea, and to get together another large collection of tea-plants.[131]

Subsequently, shipments of more 'black tea plants' followed, and at Darjeeling these were raised by Dr. Archibald Campbell.

If one of China's many ancient legends about tea is true, then there is an historical irony to the whole episode of history which involved bringing Chinese tea plants by sea to India. There is a legend that around 53 BC a man named Wú Lǐzhēn 吳裡真 went to India to study Buddhism. When he returned, he brought with him seven young tea trees which he planted on Mount Méng 蒙頂 (1456 m), just beyond the edge of the Tibetan Plateau in what today is central Sìchuān near modern-day gYag-rña གཡག་རྔ་ [jāŋā] or Yǎ'ān 雅安. Accordingly, some consider this area to be the birthplace of cultivated tea in China. This area

130 Rose (2009: 139–150).

131 Fortune (1852: 316).

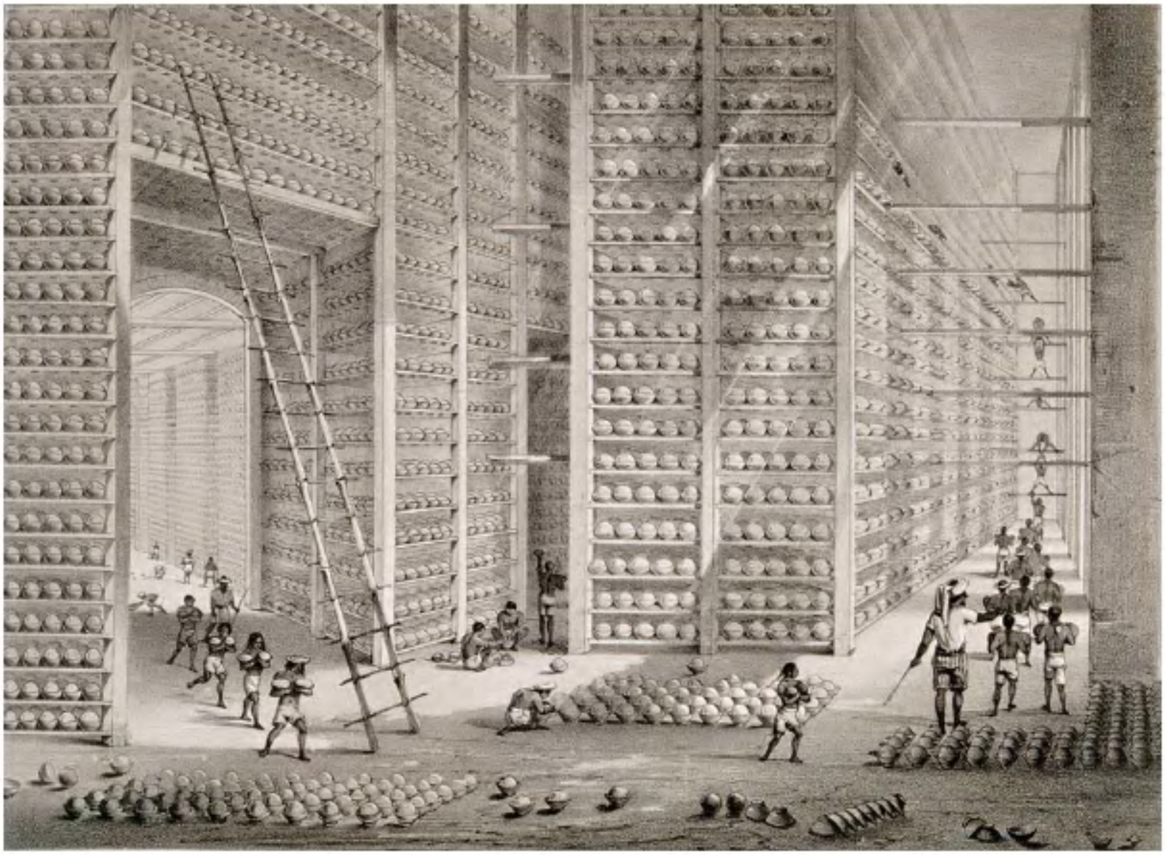

FIGURE 9.21 The drying room of an East India Company opium factory at Patna, 1851 lithograph, 20.2 × 27.5 cm, by Walter Stanhope Sherwill, published in London by Maclure, Macdonald and MacGregor, Wellcome Library, image № 25044i, London

is special to tea and to Buddhism, for the sacred Mount Éméi 峨嵋山 is located in the same area, reputed to be the place where the *bodhisattva* Samantabhadra समन्तभद्र gained enlightenment.

The tea from the grove originally planted by Wú Lǐzhēn was reputed to be so delicious that the Sòng dynasty emperor Xiàozōng 孝宗 (*imperabat* 1162–1189) conferred the sobriquet Gānlù 甘露 'sweet dew' on this tea grove and on the legendary Buddhist pilgrim who had brought back the original tea saplings all the way from northeastern India. Therefore, in retrospect the entire exercise of bringing Chinese tea plants to northeastern India may therefore evoke the image of carrying coals to Newcastle. In reality, however, the *sinensis* cultivar from China represented a domesticated variety that over the centuries had been improved and had acquired a taste distinct from that of the *assamica* cultivar, which was essentially still identical with wild tea.

Fortune described how common Chinese people lived under the Qīng dynasty.

> For a few cash (1000 or 1200 = one dollar) a Chinese can dine in a sumptuous manner upon his rice, fish, vegetables, and tea; and I fully believe, that in no country in the world is there less real misery and want than in China. The very beggars seem a kind of jolly crew, and are kindly treated by the inhabitants.[132]

132 Fortune (1847: 121).

This idyll was marred by the scourge of opium addiction, which, Fortune reported, after 'a few months, or even weeks, will change the strong and healthy man into little better than an idiot skeleton'.[133] Yet because of Britain's opium trade, China's silver payments to Britain, which amounted to 75 million silver dollars for the period from 1801 to 1826, had risen to over 134 million silver dollars for the years between 1827 and 1849. The illicit drug trade was a great financial mainstay of the British empire.

Another blight on Chinese society which put a blemish on the idyll of Chinese life as painted by Fortune was the kidnapping of Chinese people by British and American human traffickers. Chinese men were unwittingly enticed to emigrate by colonial agents, only to be exploited as coolies performing hard labour in Australia and North America. With the aid of British opium, many were drugged and then literally shanghaied at Shanghai. Many of these Chinese victims of British and American human traffickers did not live to tell their tale. In February 1851, Fortune also sent Chinese tea experts from Shanghai to India via Hong Kong on British ships, albeit by more benign means.

A few of the British tea planters in India had finally begun to grasp that the secret to the success of the tea lay in the technique of manufacture. So, when these Chinese tea curers arrived in Calcutta in May 1851, they were at first asked just to 'make tea' from the leaves of whatever trees were growing in the garden, just so that the British observers would be able to scrutinise the various ways of preparing tea. The Chinese were perplexed by the instructions of the British but complied. The British were amazed that the Chinese tea curers were able to make various type of 'tea' just from the leaves of totally unrelated trees that could easily have been passed off on the British market for Hyson skin, Hyson, young Hyson, imperial and gunpowder tea.[134]

133 Fortune (1847: 240).

134 Fortune (1852: 275–276).

After his first sojourn in China, Fortune had observed that people in Britain and especially in the United States of America at the time preferred coloured green teas. In Fortune's faulty understanding, the Chinese in Zhèjiāng made both green and black tea from *Thea viridis*, whereas in Canton people made black tea from *Thea bohea*. Fortune believed, however, that Cantonese tea manufacturers could also get green tea from *Thea bohea* by adulterating the tea with turmeric, gypsum and Prussian blue. After his second sojourn in China, Fortune described how these dyed teas were prepared in China for the Western market.

Prussian blue or ferric ferrocyanide $C_{18}Fe_7N_{18}$ was crushed into a fine powder in a mortar. Some gypsum was burnt in a charcoal fire so that it could be pounded into a fine powder as well. Four parts of pulverised gypsum were added to three parts of Prussian blue to form a light blue powder, which was applied to the teas by sprinkling sparingly over the roasting leaves with a small porcelain spoon. The workmen then turned the tea rapidly to spread the powder evenly, and this activity turned the hands of the workmen blue. Occidental consumers of the period preferred the dyed teas to the natural green teas, for the dyed teas fetched a higher price. Based on his observations, Fortune made the following calculation:

> It seems perfectly ridiculous that a civilised people should prefer these dyed teas to those of a natural green. No wonder that the Chinese consider the natives of the west to be a race of 'barbarians'.
>
> … In every hundred pounds of coloured green tea consumed in England or America, the consumer actually drinks more than half a pound of Prussian blue and gypsum![135]

135 Robert Fortune. 1852. *A Journey to the Tea Countries of China including the Sung-Lo and the Bohea Hills; with a Short Notice of the East India Company's Tea Plantations in the Himalaya Mountains*. London: John Murray (pp. 93–94).

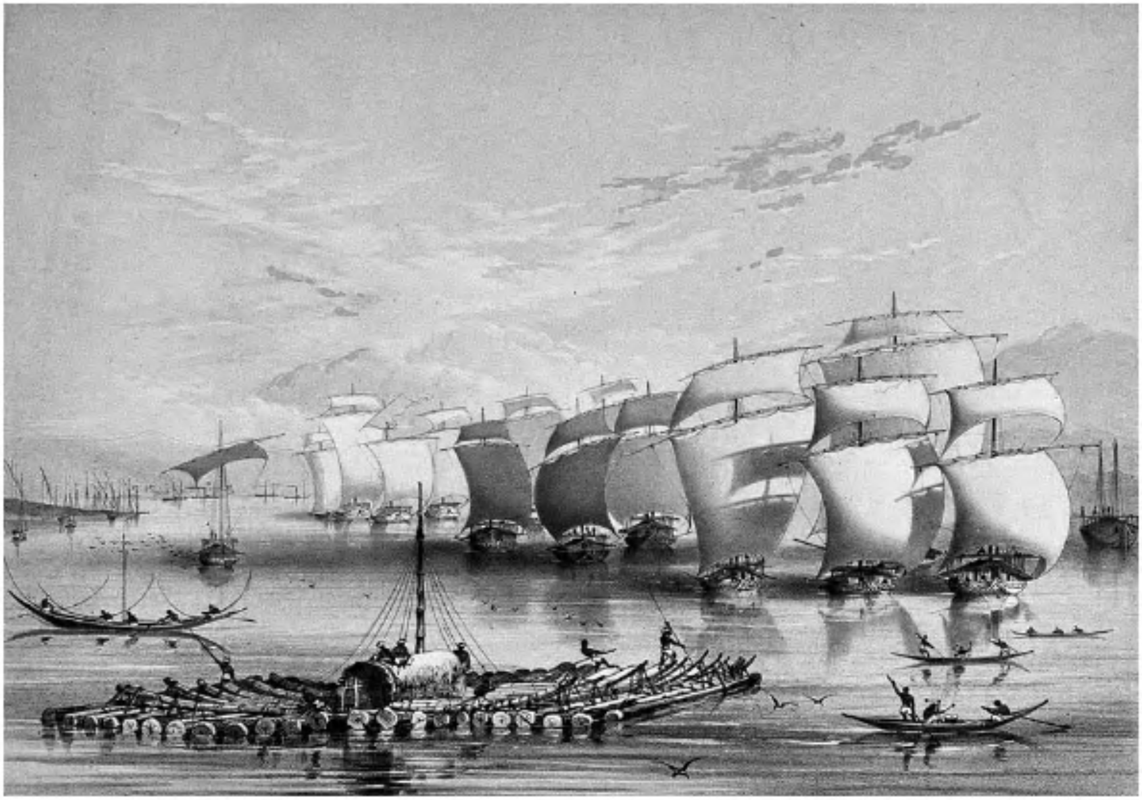

FIGURE 9.22 An opium fleet of the East India Company, descending the Ganges en route to Calcutta, 1851 lithograph, 19.7 × 27.9 cm, by Walter Stanhope Sherwill, published in London by Maclure, Macdonald and MacGregor, Wellcome Library, image № 25041i, London

At the Great Exhibition of 1851 held in a crystal palace especially erected in Hyde Park, the chemical greening of green tea, as documented by Robert Fortune, was given great publicity in order to sway the British palate away from green tea towards the new English product from Assam, which was awarded a medal.[136]

In fact, the practice of adulterating tea had already been described in British books and pamphlets since the 1780s, and the practice of 'facing' tea in China for the Western market in this way would continue until the 1880s.[137] Some insiders in the Chinese tea trade claim that the adulteration of Chinese tea is still practised in various ways by the unscrupulous once again today.[138]

136 Rose (2009: 267–268).
137 Forrest (1973: 131).
138 Zhang and Hunter (2015: 33 et seq.).

In a similar vein, international traders would also 'face' low-grade teas by mixing Chinese and Indian tea in order to improve its appearance for the Russian market. In 1860, in the heyday of adulterated green tea being exported to America, Solon Robinson professed:

> I never use green tea, and never recommend it to be used, because it is a manufactured article, frequently colored with deleterious drugs.[139]

139 Solon Robinson. 1860. *How To Live: Saving and Wasting, or Domestic Economy Illustrated by the Life of Two Families of Opposite Character, Habits and Practices, in a Pleasant Tale of Real Life, Full of Useful Lessons in Housekeeping, and Hints How to Live, How to Have, How to Gain, and How to Be Happy, including the Story of a Dime a Day*. New York: Fowler & Wells Publishers (p. 336).

To his credit, Fortune dismissed as a fable the Chinese story that rock tea in the Bohea mountains was collected from inaccessible crags by monkeys, who would tear tea twigs and tea leaves from tea trees and throw them down at taunting humans, who collected them to make an exclusive tea.[140] Fortune also made the observation, still highly relevant today, that Chinese tea pluckers passed over weaker plants altogether even when these plants were fully grown, and that tea planters had the sense and sensitivity to allow tea trees to regenerate. Tea trees were not ravaged for all that they could produce.

> The natives are perfectly aware that the practice of plucking the leaves is very prejudicial to the health of the tea-shrubs, and always take care to have the plants in a strong and vigorous condition before they commence gathering. The young plantations are generally allowed to grow unmolested for two or three years, or until they are well established and are producing strong and vigorous shoots.[141]

Fortune disparaged the efforts undertaken to establish tea in Australia and in the United States of America and predicted that these projects would end in failure.

> Labour is cheap in China. The labourers in the tea-countries do not receive more than twopence or threepence a day. Can workmen be procured for this small sum either in the United States or in Australia?[142]

Fortune's stance in this regard is noteworthy in light of a commission which he would undertake just five years later.

The Great Paradigm Shift in Global Tea Consumption

The Canton tea trade was at its height from 1784 to 1860, but the establishment of tea plantations in Java and afterwards in India and Ceylon precipitated a profound shift in the global trade and consumption of tea as well as in the Western perception of tea, but this shift did not take place until the second half of the 19th century. In the aftermath of the sad performance of the Assam Company in the 1840s, which had led to unbearable losses for so many investors, the annual yield in Assam in the 1860s barely exceeded 600 tonnes of very mediocre tea. By contrast, the quality of the tea produced at the higher altitudes in Darjeeling was wonderful, but the annual yield for all of Darjeeling district in 1865 still only amounted to about 250 tonnes.

In 1867, the yield for all of India was still below 3,200 tonnes, but the tea mania in India had begun. In 1870, China and Japan still provided over 95% of the world market in tea, which totalled 107,500 tonnes. By 1875, nearly 12,000 tonnes of Indian tea were sent to London, and in the ensuing years copious supplies of tea from China and increasing yield from India depressed tea prices in Britain. In 1887, the scales tilted. Indian tea imports to London reached 43,000 tonnes, thereby overtaking the consumption of Chinese tea, of which barely 40,000 tonnes reached London that year. Ceylon yielded 10,000 tonnes of tea in 1887, which grew to an annual yield in excess of 31,000 tonnes by 1892.[143]

It was during this swelling British enthusiasm for Indian tea in the 19th century that Indian tea caddies called teapoys first came into use in England. These elegant receptacles assumed the form of three-legged tea chests or took the shape of a separate tea caddy kept on a matching three-legged stand. The name teapoy derives from Hindi *tīnpāī* तीनपाई 'three-legged', akin to the Hindi word

140 Fortune (1852: 237).
141 Fortune (1852: 259).
142 Fortune (1852: 286).
143 Paul Butel. 2008. 'Les mutations des structures du commerce du thé au XIXe siècle', pp. 63–76 in Raibaud and Souty (op.cit., pp. 73–75).

for the Indian cot called a *cārpāī* चारपाई 'charpoy', which literally means 'four-legged'. Because of the similarity between the first syllable and the English word for tea, the word acquired a new shape in the British Isles.

At the end of the 19th century, the area under cultivation in British territories ballooned, with the largest areas being in northeastern India and Ceylon. Between 1893 and 1897, the surface area of tea plantations in Ceylon leapt from 110,000 to 162,000 hectares, in Assam from 56,600 to 72,800 hectares, in Cachar from 23,900 to 30,300 hectares, in Sylhet from 19,400 to 30,300 hectares, in Darjeeling and the adjacent Terai tracts from 18,600 to 29,500 hectares, in the western duars from 16,000 to 23,000 hectares and in the Chittagong from 1,600 to 2,200 hectares. There are today more than 40,000 large and very small tea plantations in Assam, some as large as 500 hectares in surface area employing more than 10,000 tea pickers.

In the same period, the area under tea cultivation in the Chota Nagpur at Ranchi, Hazaribagh and Loharduggar increased from 1,200 to 2,000 hectares. In the western Himalayas, acreage at Dehra Dun, Mussoorie and Nainital in Garhwal and Kumaon increased from 3,200 to 3,400 hectares and an additional 4,000 hectares were under tea cultivation at Punjah in the Kangra valley and on the Dhauladhar range with its moisture laden clouds. In southern India, the area under tea cultivation in the Nilgiris and Wayanad increased from 2,400 to 2,800 hectares, and in Travancore and Cochin jumped from 2,800 to 4,500 hectares.[144] By 1895, over 600,000 persons were employed in the cultivation, picking and manufacture of tea in India, and annual production just exceeded 73,000 tonnes.[145]

Output in India at the beginning of the 20th century was just under 200 million pounds but at independence in 1947 over 560 million pounds were being produced, and output in Ceylon also more than doubled over the same period.[146] At the beginning of the 20th century, India consumed but a negligible fraction of its own tea production, but in the course of the 20th century the Indians took to tea. Until 2005, India would remain the world's largest tea producer, but China has now overtaken this position after the rectification of the mismanagement of its economy. Today, India is the world's second largest tea producer, but most of India's gigantic tea production is domestically consumed.[147] Over 80% of the black tea produced in India is CTC tea. The domestic tea market in India was worth 33.9 billion rupees in 2002, but Taknet reports that:

> The Indian tea industry is burdened with cumbersome taxes which have weakened its competitive edge in world markets. High taxation wipes out a major percentage of profits. The result is that the industry is not in a position to plough back funds for long-term development. There is an urgent need to examine the tax structure and rationalise it.[148]

In 2010, out of the over 966,403 tonnes produced, which constituted 28% of global output, only 193,200 tonnes were exported, putting India in fourth place as a tea exporter.

Initially, this new black tea from India was consumed primarily in Britain, whilst Australia and America were more conservative in maintaining a preference for Chinese tea. In Australia, Chinese tea was less costly than the new Indian tea. In America in the second half of the 19th century, green tea from Fukien was favoured, and in exchange America exported opium as well as Canadian otter skins and Hawaiian wood to China. American tea drinkers of the period also favoured fragrant Formosan teas and teas from Japan, and they would retain these more conservative prefer-

144 Moxham (2003: xv).
145 Barrie and Smyers (1999: 259).
146 Moxham (2003: 185).
147 Butel (2006: 148).
148 D.K. Taknet. 2002. *The Heritage of Indian Tea*. Jaipur: Indian Institute of Marwari Entrepreneurship (pp. 192, 226).

FIGURE 9.23
Rudolph Eduard Kerkhoven
PHOTOGRAPHED BY ALBERT GREINER IN AMSTERDAM IN 1873, REPRODUCED WITH THE KIND PERMISSION OF THE STICHTING INDISCH THEE- EN FAMILIEARCHIEF VAN DER HUCHT C.S., AMERSFOORT

ences until the Americans too were converted to English style brown tea from India and Ceylon after Lipton began to propagate Ceylonese tea across the Atlantic beginning in 1892.[149]

Meanwhile, in the Dutch East Indies private tea planters were beginning to see increasing returns. In 1877, Dutch tea planters sent Javanese tea to Mincing Lane in London, where the tea was judged to be inferior to the tea being manufactured in Darjeeling. No doubt the difference was also one of terroir. The British colleagues were quite helpful to the Dutch tea planters, and the reasonable conjecture of both the Dutch and British tea men at the time was that the *assamica* cultivar of Assam might be better suited to balmy Java than was the *sinensis* cultivar from Japan. One menace to tea plants in insular Southeast Asia were insects of the *Helopeltis* genus that were not present to feed on tea growing in cooler climes.[150] The hunch was vindicated by subsequent experience, and Cohen Stuart would announce in 1924 that the days of the *sinica* cultivar in Java were gone for good.[151]

In 1871, Rudolph Eduard Kerkhoven, the son of Javanese tea planter Rudolph Albertus Kerkhoven, returned to the Dutch East Indies after completing his higher studies in Delft. South of Bandung, he acquired a coffee plantation at Gambung, which he cleared in order to establish his own tea plantation. In 1877, Kerkhoven brought the first *assamica* tea cultivars to Java from Ceylon.[152] The following year, seeds of the *assamica* cultivar were also

149 Butel (2006: 148), Butel (2008: 72).

150 Ch.-J. Bernard. 1924b. 'Geschiedenis der „roest"-plaag (Helopeltis)', blz. 96–99 in Cohen Stuart (op.cit.).

151 Combertus Pieter Cohen Stuart. 1924b. 'Assam contra China', blz. 88–95 in Cohen Stuart (op.cit.).

152 Kerkhoven became the protagonist of the 1992 historical novel *Heren van de thee* 'The Tea Lords' by the celebrated Dutch writer Hella Haasse.

FIGURE 9.24 The tea factory at the Malabar estate in Java in 1935, showing the La Salle automobile belonging to Rudolf Albert Kerkhoven, eldest son of Rudolph Eduard Kerkhoven and manager of the tea plantation
COURTESY OF THE STICHTING INDISCH THEE- EN FAMILIEARCHIEF VAN DER HUCHT C.S., AMERSFOORT

sent from India to Java, where they were planted at the plantation of Albertus Holle at Tjibadak. Kerkhoven, who had better luck with the *assamica* cultivar in 1882, ordered more seeds from India. In the spirit of the times, the Dutch also felt that they must mechanise production as the British had done, rather than have the tea processed by hand.

Whereas the British in the 1830s and 1840s took their cue from Dutch tea planters in Java, the Dutch in the 1870s and 1880s sought to emulate British tea planters in India. Yet the exchange of information and influences was reciprocal. In 1888 on some Assamese tea plantations, the imported Chinese strains and the Indo-Chinese hybrids were likewise largely abandoned for the local northeast Indian variety, which had been found growing naturally in patches in the wild. The Indian Tea Association was established in the same year.

Just as Indian tea was making headway against Chinese tea in Britain, the same process transpired involving Javanese tea with respect to Chinese tea on the Dutch market at this time. Whilst only 22 % of the tea on the Dutch market was Javanese tea in 1885, by 1922 the share of Javanese tea had reached 84 %. By 1924, one of the numerous one-hundred-year-old Javanese tea bushes was uprooted for study on the occasion of the 1924 tea exhibition at Bandoeng.[153] At this time, it would still be a

153 In 1972, the spelling of the name of the city was changed to Bandung as a result of a spelling reform introduced under president Suharto in an attempt to

FIGURE 9.25 *Malabar, Het binnenkomen van de pluk*, bringing in the pluck on the tea plantation of the Kerkhoven family at the Malabar tea estate, reproduced with the kind permission of the Stichting Indisch Thee- en Familiearchief van der Hucht c.s., Amersfoort

couple of decades before Darjeeling would boast tea bushes over a hundred years old. The growth in market share between 1885 and 1922 followed a straight linear progression to the detriment of Chinese market share.[154] Between 1862 and 1865, the tea plantations in the Dutch East Indies were privatised,[155] and from 1880 native Javanese tea entrepreneurs played an ever increasing role as private tea entrepreneurs alongside Dutch colonial planters.[156]

The volume of tea exported from the main tea producing countries showed a complete paradigm shift in the late 19th and early 20th century. Tea exports from British India took off to a flying start in the mid 1860s, and the steepness of the curve accelerated in the mid 1870s. Tea exports from Ceylon took off in 1880, and then the growth curve shot up just as steeply as that of Indian tea from the mid 1880s. Exports of Javanese tea grew only gradually from the 1860s, then shot up

move away from the colonial legacy of Dutch orthography and match the spelling used for Malay, and consequently thereby incorporating a number of orthographic conventions that were part of British colonial legacy instead.

154 Combertus Pieter Cohen Stuart. 1917. *De Theecultuur in verschillende landen (Mededeelingen van het Proefstation voor Thee, LVII)*. Batavia: Ruygrok & Co.; H.C.H. de Bie. 1924. 'De Nederlandsch-Indische theecultuur 1830–1924', blz. 40–58 in Cohen Stuart (op.cit.).

155 van der Chijs (1903: 593).

156 T.J. Lekkerkerker. 1924. 'Twee inlandsche theeplanters-associaties in de Preanger-regentschappen', blz. 59–69 in Cohen Stuart (op.cit.).

FIGURE 9.26
A label from a crate of the very first shipment of Javanese *souchon* which had arrived for sale at the *Brakke Grond* in Amsterdam from the Dutch East Indies on the ship *Algiers*

steeply from 1910, though suffering a setback in the wake of the Russian revolution of 1917. In 1900, the world tea market had a volume of 272,000 tonnes, only 40% of which then came from China and Japan, about 58% from British India and 2% from the Dutch East Indies. From 1910, tea plantations were established in Sumatra, beginning with Simalungun in northern Sumatra. In 1922, tea production in the Dutch East Indies topped 49,900 tonnes.[157]

By 1900, the trade in Indian tea had not only far exceeded but had already begun to supplant the European trade in Chinese tea. The volume of tea exports from China began to falter and fluctuate from the mid 1870s, then plummeted sharply from 1910. Exports of tea from Japan and Formosa fluctuated gently around a level mean until 1914, when they suddenly plummeted sharply. From the mid 1910s, the volume of Indian, Ceylonese and Javanese tea exports suddenly came to evince a more gentle rate of growth, compared to their meteoric rise in volume in the preceding decades.[158] After this tapering off, the financial crisis struck in 1929. To mitigate the ensuing market slump, the Dutch East Indian and British Indian planters agreed to restrict plucking in India, Ceylon and Java, but the plan proved ineffective and was abandoned after the first year.[159]

When the Dutch first began manufacturing tea in Java, they began to classify the teas which they managed to produce with their limited knowledge and lack of prior experience of the production process. As a result, Chinese loan words came to be used in ways that were not quite like their original meanings because the names of types of Chinese tea were simply affixed as labels to categories of tea which the Dutch in Java succeeded in manufacturing, based on the superficial similarity of the resulting product with particular types of Chinese tea.

157 Rutgers (1924).

158 de Bie (1924, Plaat 16a. 'De uitvoer van thee uit de voornaamste produktie-landen', tussen blz. 58 en 59).

159 Ukers (1935, Vol. 1, pp. 127, 172).

In the 1820s, Levien Jacobson was already using the terms *Souchon* and *Pecco* in this way.[160] When the first Javanese tea was brought to Amsterdam in 1835 on the frigate *Algiers*, the teas manufactured in the Dutch East Indies and auctioned at *de Brakke Grond* were classified as *zwart* 'black', *grijs* 'grey' and *groen* 'green'. The Javanese black teas were labelled as *Congo, Congo Boey, Kempoey, Souchon* and *Tienchon*. The grey tea was *Pecco*, and the green teas from Java bore the labels *Tonkay, Hysant-Schin, Hysant, Uxim, Joosjes* and *Soulang*.[161]

During the 1840s and 1850s, the traditional Chinese grades and classes of tea for which both Dutch and English had both adopted their own versions of the Hokkien names, such as *song-lô* 鬆羅 [sɔŋ ˧ lo ˧˥] 'Songlo' and *kong-hu* 工夫 [kɔŋ ˧ hu ˧] 'Congou', and the Cantonese names, such as *gaang*^{3}*bui*^{6} 梗焙 [kaːŋ ˧ puːi̯ ˨] 'Campoi', *siu*^{2}*zung*^{2} 小種 [siːu̯ ˧˥ tsoŋ ˧˥] 'Souchong' and *on*^{1}*kai*^{1} 安溪 [ɔːn ˥ kɐi̯ ˥] 'Ankay', gradually disappeared from the ledgers.[162] When dealing with new Javanese and Indian teas, Dutch and British tea planters still found lasting use, however, for the Hokkien term *pék-hô* 白毫 [pɪk ˧ ho ˧˥] 'Pecco' or 'Pekoe'. Early on in Javanese tea manufacturing, subcategories of *Pecco* were distinguished and descriptively labelled *Pecco Souchon* 'Pekoe Souchon', *Pecco-puntjes* 'Pekoe points' and *Keizers-pecco* 'Emperor's pekoe'. Terms used in the Dutch East Indian tea industry to describe pekoe were *grijs* 'grey', *donzig* 'downy' and *oranje* 'orange'.

Levien Jacobson explained that grey and downy was as pekoe should be, whereas *oranje pecco* 'orange pekoe' resulted from the withering of tea that had been picked too early or for too long.

> als er te jong en nog meer dan te lang geplukt is, dan willen de topbladeren niet gemakkelijk verflensen en het weinige verflenste heeft dan een oranje-kleur; men noemt die oranje-pecco.[163]
>
> If the leaves are picked too young or for too long, then the top leaves are not easily withered and that little which manages to get withered then has an orange colour; this is called orange pekoe.

Once the term *oranje pecco* had been innovated for this imperfect Javanese rendition of *pék-hô* 白毫, the label was even used in Dutch sources with reference to Chinese tea purchased at Canton that fit this description, such as a list of tea shipments prepared by the Dutch consul at Canton in 1846.[164]

In origin, however, the term had direct bearing on the tea manufacturing process in the Dutch East Indies:

> Men plukt alle 9 dagen de uiteinden der jonge takjes (*poetjoek* of uitloop) met den knop (*pekoe-* of *pecco-punt* of *-naald*) en 2 of 1 blaadjes ... en daar de pecco fijn behaard is (welke haartjes door de fabrikatie goudgeel worden), kan men dadelijk aan de „golden tips" zien of de thee veel pecco bevat (*oranje pecco*). Naarmate ze van ouder en grover blad afkomstig is, heet de thee *pecco*.[165]
>
> Every nine days the tips of the young twigs (*pucuk* or shoots) are plucked with the bud (*pekoe* or *pecco point* or *needle*) and 2 or 1 leaves

160 Cohen Stuart (1924a: 36).

161 De pakhuismeesteren van de thee. 1924. 'De Java thee en de Nederlandsche markt', blz. 70–82 in Cohen Stuart (op.cit.).

162 Forrest (1973: 113).

163 Levien Jacobson (1843), reproduced in Cohen Stuart. 1924. 'Uitlegging van verscheidene woorden, die gemeenlijk bij het beoordeelen van thee gebruikt worden', blz. 165–174 in Cohen Stuart (op.cit., blz. 192).

164 'Staat van den Handel in *China*, onder Nederlandsche vlag, te *Canton* en *Macao* 1846; in 16 schepen, metende 2783 lasten', first published in the *Staats-Courant* of 28 June 1847 and then reproduced in G.A. Tindal en Jacob Swart. 1847. *Verhandelingen en Berigten betrekkelijk het Zeewezen en de Zeevaartkunde* (Nieuwe Volgorde, Zevende Deel). Amsterdam: Weduwe G. Hulst van Keulen (blz. 441).

165 Combertus Pieter Cohen Stuart. 1916. *Voorbereidende onderzoekingen ten dienste van de selektie der theeplant* (Mededeelingen van het Proefstation voor Thee, 40). Amsterdam: J.H. de Bussy (blz. 5).

> … and, as the pekoe is covered in fine hairs (which little hairs discolour to golden yellow during fabrication), it becomes readily visible on the basis of the "golden tips" just how much pekoe the tea contains (*orange pekoe*). When the tea is made from older and coarser leaf, it is just called *pekoe*.

The Javanese grading system was adopted and adapted in Assam, where sorting was based on how intact the tea leaves were, ranging from whole leaf and broken leaf to fannings and dust.

In Assam in the 1840s, *orange pekoe* comprised long thin leaves. *Pekoe* consisted of shorter thin leaves. *Souchong* referred to broad leaves. In India, British tea makers were rather fond of abbreviations, and in Assam broken tea leaves were graded in descending size as follows: *broken orange pekoe* (BOP), *broken pekoe* (BP), *broken pekoe souchong* (BPS), *broken orange pekoe fannings* (BOPF), *broken orange pekoe dust* (BOPD) or just *dust* (D).[166] Later, in the 1850s, the British Indian system of grading and nomenclature was even further developed in Darjeeling. Though still essentially based on the Javanese grading system, the terminology and abbreviations were rendered even more ornate and arcane, and the originally Chinese terms acquired newly innovated meanings. *Pekoe* (P) came to denote whole leaf, consisting mostly of the shorter leaves without the tips. *Flowery pekoe* (FP) was made by balling the leaves in the rolling process and had medium quality. *Souchong* (S) were large leaves rolled lengthwise, whereas *Pekoe souchong* (PS) were coarse leaves of medium quality rolled lengthwise.

In general, the top two leaves and the furled bud leaf are picked, and younger leaves make finer tea. In Darjeeling, *orange pekoe* (OP) is a label applied to the most basic form of first grade tea, which is made from just the top two leaves and the bud. The predicates *flowery* (F), *tippy* (T) or *golden* (G) could be added if buds were present. Several grades of whole leaf tea are distinguished, each designated by a prolix abbreviation, which it makes sense to present in order of ascending quality. Tea is called *flowery orange pekoe* (FOP) if the bud is still tight when picked and includes a number of tips. When such young tea is dried, some of the tips have the colour of straw. A finer grade containing many tips is denominated *golden flowery orange pekoe* (GFOP), and if the tea contains mostly just tips and yields a golden amber liquor, the denomination is *tippy golden flowery orange pekoe* (TGFOP). For even finer grades, the denominations *finest tippy golden flowery orange pekoe* (FTGFOP), also facetiously construed to stand for 'far too good for ordinary people', and *special finest tippy golden flowery orange pekoe* (SFTGFOP) are used.[167]

The balmy and sometimes muggy Brahmaputran plain of Assam did not usually yield the prolix higher grades which Darjeeling boasted. After tea planters and manufacturers in British India had elaborated the Dutch East Indian nomenclature in this fanciful way, the Dutch in turn sought to adopt the newer terms invented for the British grading system of Indian tea. Flowery Pekoe was rendered into Dutch by some unsatisfactorily as *flowery pecco*, but more knowledgeable Dutch tea manuals seeking a better translation simply reverted to the older Dutch term *witpunt* 'white point' or *pecco witpunt* 'pekoe white point' already used by Levien Jacobson. The originally Dutch term *oranje pecco* had been rendered into English as orange pekoe, but later some Dutch tea manuals sought to introduce the name *geelpunt* 'yellow point' to designate the small leaved orange pekoe grade distinguished in the English grading system.[168]

166 Moxham (2003: 254).

167 José Eduardo Mendes Ferrão. 2012. 'A cultura do chá (uma síntese)', *Revista Oriente*, 21: 52–87.

168 W.F. Gerdes Oosterbeek. 1905 'Thee', s.n.; J.P. den Herder en G.S. Scheltema. 1952. *Warenkennis van het Kruideniersbedrijf* (tiende ongewijzigde druk). Amsterdam: N.V. Noord Hollandsche Uitgevers Maatschappij. The Dutch terms *witpunt* and *geelpunt* were translation equivalents for British tea grade names, and the similarity with descriptive Chinese epithets such as *báijiān* 白尖 'white point' and *huángyá* 黃芽 'yellow bud', that are often affixed to varieties of tea, is merely coincidental.

FIGURE 9.27
An old package of the tea *oranje pecco* by Douwe Egberts, photo Alf van Beem

The American tea enthusiast James Norwood Pratt has since 2002 propagated the idea that the name *orange pekoe* originally arose as a marketing ploy of clever Dutch traders in the 17th century. Pratt evidently imagined that the first pekoe tea 'brought to Holland must have been presented to the royal family, the House of Orange, and by a stroke of marketing genius' this variety of tea 'was promoted to the Dutch public as Orange Pekoe to suggest a royal warrant'. More recently in print, Pratt has opined that 'early Dutch traders seem to have used "Orange" to suggest Holland's ruling House of Orange'.[169] Never mind that the United Provinces had no royal family, although the *stadthouders*, who were members of the House of Orange, did play a prominent role in the Dutch republic.

In fact, the term *oranje pecco* does not occur in early Dutch writings on tea, but was first coined and used as a descriptive term in Java in the 1820s and 1830s by Levien Jacobson. Before the Dutch invented their own varieties of Javanese tea, the references to *pecco* in Dutch documents invariably pertained to the Chinese tea called *pék-hô* 白毫 in Hokkien.[170] A century later, the name *oranje pecco* was cleverly exploited in combination with artistic orange-coloured labels on tea packets by Douwe Egberts, the leading popular tea brand in the Low Countries with over 50% of market share.[171] This

169 James Norwood Pratt. 2002. 'The Dutch invent "Orange Pekoe"', ⟨http://www.teamuse.com/article_020501.html⟩, accessed 25 December 2014; James Norwood Pratt. 2010. *Tea Dictionary*. San Francisco: The Society Press. (p. 208).

170 For example, Valentyn (1726) or *De Maandelykse Nederlandsche Mercurius*, 16 (van January tot Juny 1764). Amsterdam: Bernardus Mourik (blz. 38, 39, 167).

171 Douwe Egberts has sold tea since 1753. Since 1937, the company has rebranded its tea as Pickwick tea after the excessive tea drinking comically depicted by Charles

struck a nerve with Dutch consumers after the First World War until relatively recently. The association with the lineage of the former *stadthouder* family, which in the post-Napoleonic Netherlands had acquired the status of a royal house, could not have been lost on anybody. The suggestion of some connection between orange pekoe and the House of Orange that was created by this marketing ploy in the minds of consumers may have furnished the ultimate inspiration for the urban myth which somehow reached Pratt, that is if it was not just his own imagination that invented the story.

The wisdom plucked from Pratt's internet blog was repeated uncritically in one popular American book on tea in 2006.[172] The myth also found its way into the French tea drinker's guide in 2007, where orange pekoe was defined as « un type de cueillette, ainsi baptisée par les premiers importateurs hollandais au XVIIe siècle en hommage à la famille royale des Pays-Bas, les Orange-Nassau » ('a type of pluck, thus christened by the first Dutch tea importers in the 17th century in honour of the royal family of the Netherlands, the house of Orange-Nassau').[173] The French author once again evokes the anachronism of a Dutch royal family in the 17th century. Ironically, this very same French tea drinker's guide features a colour photograph of several piles of green tea leaves, which are shown having turned a vibrantly rusty and unmistakably orange colour after several hours of withering, rolling and riddling, just as described by Levien Jakobson in 1843.[174] The tall tale got enshrined on Wikipedia and has even made its way onto a few Dutch websites.

One German website for Pickwick Tea countered by featuring a clever spoof that outdid this urban myth in a gleeful sales pitch for a novel variety of '*oranje pecco*', being black tea that has been flavoured with grated orange peel:

> Die Geschichte sagt, dass unsere niederländischen Geschäftsleute in der italienischen Stadt Pecco eine neue Teepflanze entdeckt haben und beschlossen zusammen mit dieser Provinz ein Produkt zu kreieren. Im Gegenzug präsentierte das Haus Oranien diese Teesorte. So war der Name Orange Pecco geboren.[175]
>
> History tells us that our Dutch traders discovered a new tea plant in the Italian city of Pecco and decided to create a new product together with this Italian province. The House of Orange parried by presenting this tea. This is how the name Orange Pekoe was born.

The playful marketing gimmicks by Douwe Egberts in the 20th century and by Pickwick Tea in the 21st are quite benign, but the propagation of the orange pekoe myth in sources that pretend to be historical accounts of tea is more than just a trifle misleading.

Dickens in his novel *Pickwick Papers*, where the comical character of Mr. Sam Weller would repeatedly alert Samuel Pickwick, the protagonist and founder of the Pickwick Club, with his anxious observations about the intemperate tea drinking women at a fund-raiser in London during 'the monthly meetin' o' the Brick Lane Branch o' the United Grand Junction Ebenezer Temperance Association'. Weller observed: 'Why, this here old lady next me is a drownin' herself in tea', and later again 'There's a young 'oman on the next form but two, as has drunk nine breakfast cups and a half; and she's a swellin' wisibly before my wery eyes' (Dickens 1836: 347).

172 Beatrice Hohenegger. 2006. *Liquid Jade*. New York: St. Martin's Press (pp. 200, 206).

173 François-Xavier Delmas, Mathias Minet et Christine Barbaste. 2007. *Le Guide de dégustation de l'amateur de thé*. Paris: Éditions du Chêne (p. 20). An English translation became available the following year: François-Xavier Delmas, Mathias Minet and Christine Barbaste. 2008. *The Tea Drinker's Handbook*. New York and London: Abbeville Press.

174 Delmas, Minet et Barbaste (2007: 63), and the same page in the 2008 English edition.

175 Pickwick Tee, Dutch Oranje Pecco, Artikel Nr.: 91 ⟨http://www.pickwick-shop.de/schwarzer-tee-mit-aroma/pickwick-tee-dutch-tea-blend-aromatisierter-schwarztee-mit-orangenschalen-20-teebeutel/a-91/⟩, accessed 25 December 2014.

The Second Opium War and the Tàipíng Rebellion

After the First Opium War, the Peninsular and Oriental Steam Navigation Company, better known as P&O, also joined the illegal but lucrative opium trade.[176] The basic financial picture had not changed. The British still wanted to have Chinese tea, but did not want to spend their silver paying for it, whilst Britain had little of value to trade with China in return other than illegal narcotics. Rudolf Goldscheid once argued that, in the relation between public finances and the state, the budget represented the genuine skeletal framework of the state, ruthlessly stripped bare of all deluding ideologies.[177] Britain's public finances and balance of trade with Asia were underpinned mainly by the huge revenues generated from the sale of opium grown in British India and sold in Canton.

What had changed after the First Opium War is that Britain placed even more demands on the Chinese whilst continuing to carry on the peddling of narcotics within China's borders. Profits from the British opium trade financed both the governing of India and the purchase of Chinese tea and silk. Tea was by far the largest factor in the equation, for not only was raising revenue in order to be able to buy tea the principal *raison d'être* of Britain's opium trade, once the tea had been imported to Britain, the annual duty levied on Chinese tea alone was almost sufficient to finance the entire annual budget required to keep the Royal Navy afloat and armed to the teeth.[178] At the same time, China was subject to Christian proselytisation from the West just as the British intensified their narcotics trade in the country.

The Second Opium War (*gerebatur* 1856–1860) was waged by Britain and the Second French Empire under Napoléon III against China. The economic rationale for waging war against China was to defend the narcotics for tea trade, which the Chinese sought to disrupt by enforcing its laws against opium smuggling. Consequently, Britain and France had already made preparations to wage war, but the immediate *casus belli* was the Chinese seizure in 1856 of a lorcha named the *Arrow*. The vessel was owned by a Chinese merchant, manned by a predominantly Chinese crew, registered under expired British papers, but the lorcha flew a British flag and was captained by Tom Kennedy, a 21-year-old Irishman from Belfast.

After the reported sighting of a Chinese pirate or the pirate's father on board, the Chinese commissioner Yè Mínchēn 葉名琛 had the vessel seized, a dozen sailors arrested and the British flag taken down. The local British consul Harry Parkes cried foul and created a public scandal by demanding an apology from the Chinese commissioner Yè for a purported insult to the British flag,[179] although to this day there is a dispute about whether the colours were actually hoisted at the time that the pirate ship was seized. Exploiting inflammatory accusations to mobilise public opinion, Britain used the incident as a pretext to open gunfire on

176 Freda Harcourt. 2006. *Flagships of Imperialism: The P&O Company and the Politics of Empire from Its Origins to 1867*. Manchester: Manchester University Press.

177 This particular formulation, often quoted and sometimes misquoted, was much beloved of Rudolf Goldscheid himself, who rephrased it slightly in his essays, e.g. '… dass die sozialistische Theorie im Budget nicht das erkennt, was dieses tatsächlich zum Ausdruck bringt: nämlich das aller täuschenden Ideologien rücksichtslos entkleidete Gerippe des Staates' (Rudolf Goldscheid. 1917. *Staatssozialismus oder Staatskapitalismus, ein finanzsoziologischer Beitrag zur Lösung des Staatsschulden-Problems* (vierte und fünfte Auflage). Wien: Anzengruber-Verlag, p. 129), cf. '… dass das Budget gleichsam das aller verbrämenden Ideologie entkleidete Gerippe des Staates darstellt' (Rudolf Goldscheid. 1926. 'Staat, öffentlicher Haushalt und Gesellschaft: Wesen und Aufgabe der Finanzwissenschaft vom Standpunkte der Soziologie', pp. 146–184 in Wilhelm Gerloff und Franz Meisel, eds., *Handbuch der Finanzwissenschaft*, Band 1. Tübingen: J.C.B. Mohr, p. 148).

178 J.Y. Wong. 1998. *Deadly Dreams: Opium, Imperialism and the Arrow War (1856–1860) in China*. Cambridge: Cambridge University Press (p. 27); Arthur David Waley. 1958. *The Opium War through Chinese eyes*. London: George Allen & Unwin.

179 Gelber (2004: 172).

FIGURE 9.28
After the capture of Canton on the 1st of January 1858, the commissioner Yè Mínchēn 葉名琛 was hunted down and taken prisoner to Calcutta, where he soon died in a gaol at Tolly Gunge.

the city of Canton from the Pearl River and start military action against China.[180]

In the *Arrow* incident and the Second Opium War, the Americans sided with the British, for the United States was even more afflicted by the same problem. At the outbreak of the war, the Americans were the second largest buyer of Chinese tea, second only to Britain. Since the Americans had few commodities to offer China in order to balance the trade deficit caused by tea, the United States had also taken to narcotics smuggling in China, but the Americans lacked the capability to practise the opium trade on the same scale as Britain. During the first year of the war, it was argued in the House of Lords that the trade in the single article of tea had grown in volume from 41 to 87 million pounds in the span of ten years' time, and the sale of opium in China was therefore discussed in terms of national economic interests.[181]

After four years of war, the French and English ransacked the Summer Palace and the Old Summer Palace in Peking and looted them of their priceless art work and then destroyed them. The Treaty of Tientsin of 1858 and the Convention of Peking in 1860 compelled China to concede to Britain and other foreign powers the prerogative to import opium and supply addicts in China, granted Britain the right to transport Chinese indentured labour to America, allowed foreigners to travel freely within China and proselytise Christianity, ceded Kowloon to Britain, and so forth.

Gelber, an apologist for the British stance during the Opium Wars, argues that the British at the time did not perceive themselves as 'wicked, sinful and grasping' or even as having 'forced opium on the Chinese'. The explicit debates in parliament and the vivid reports of the effects of opium addiction in China in widely read sources such as the accounts of Robert Fortune argue against the historical perspective which Gelber espouses. On the other hand, it is well documented that in the press the British depicted themselves as the aggrieved party, and British belligerence on Chinese soil persisted after the conclusion of the Opium Wars. After the wars, British evangelicals belatedly took to propagating a contrite public view of British narcotics peddling in China. Consequently, opium smuggling was kept as much out of the public eye as possible.

In a debate in parliament in 1857, William Gladstone observed that Hong Kong had become the main hub for opium smuggling, but Henry John Temple, the 3rd viscount Palmerston, countered that tea imports had doubled from 42 million pounds in 1842 to over 80 million pounds with a comparable rise in the import of Chinese silks. The most expedient way to pay for the tea trade, lord Palmerston argued, was with the British opium trade. By 1870, the trade had become so lucrative that the narcotics trade accounted for 1/7 of the exchequer's income, and William Gladstone,

180 Wong (1998).
181 Wong (1998: 188–190).

who had spoken out so eloquently against the opium trade in 1840, warmly advocated the narcotics trade in an influential speech in parliament, extolling the financial benefits of revenue generated by the British opium trade.[182]

In deciding to unleash the Second Opium War on China, both Britain and the Second French Empire chose their moment well, for they were well aware that the country was at the time already embroiled in an ugly civil war. At the time, natural calamities had led to poor harvests of staple crops as well as of tea. The decline in China's tea and food production was further exacerbated by the famine and disruption caused by the Tàipíng rebellion against the Manchu dynasty which broke out in 1850. This bloody insurgency was led by the Hakka Protestant Christian convert Fûng Siù Tshiên 洪秀全. Fûng was inspired by Protestant damnation and salvation pamphlets that had been translated into Chinese, and he was indoctrinated by the American Southern Baptist missionary Issachar Jacox Roberts (1802–1871) from Tennessee.

It had been revealed to Fûng in a dream that he was, in fact, none other than the younger brother of Jesus Christ. In January 1851, his militant movement turned into a full-fledged armed revolt during the uprising which he orchestrated in famine-ridden Jīntián 金田 in eastern Guǎngxī 廣西, today called Guìpíng 桂平. In his capacity as the second son of God, Fûng established a new Chinese government at Nanking which he called *tàipíng tiānguó* 太平天國 'the heavenly kingdom of perfect peace'. During his reign, the younger Christ waged war from his capital at Nanking against the Manchu government in Peking, and this bloodiest of civil wars exacted a death toll of over 20 million people until Fûng's own death in 1864. Roberts continued to act as an advisor to the Chinese government of the second Christ at Nanking until he left China on a British vessel in 1862, disillusioned with Fûng's movement.

In the aftermath of the Opium Wars, opium production, import and consumption persisted in China. Britain smuggled as much as 93,000 chests of opium into China in 1872, and Britain continued vigorously to export opium from India to China until 1911, when the Qīng dynasty collapsed. The addiction in China fuelled by the British narcotics trade caused many Chinese farmers to convert to cultivating the more lucrative opium themselves so that in some regions food shortages resulted.[183] Although opium imports rose constantly after the Second Opium War, demands for other imported goods fell, and the exports of tea and silk soared. Foreign payments were once again flowing into China in the form of silver dollars, which the Chinese hoarded.[184]

The British established a mission at Peking, and they became the most important foreign influence in China for several decades. In 1937, Hong Kong had an estimated population of one million, about 40,000 of which were opium smokers and about 24,000 of which were heroin addicts. Under Japanese occupation during the Second Sino-Japanese war (*gerebatur* 1937–1945), the Japanese encouraged opium consumption and drug addiction amongst the Chinese populace in emulation of earlier British and American policies. The enduring effects of these colonial policies have lingered on, manifest in the trend that, at the end of the 20th century, both China and India were reckoned to be the fastest growing markets for the illicit trade in heroin.[185]

The Opium Wars and India

The Opium Wars waged by Britain did not only affect China, but also affected India, particularly Assam. People from economically depressed

182 Gelber (2004: x, 160 et seq., 187, 203–217); William Travis Hanes III and Frank Sanello. 2002. *The Opium Wars: The Addiction of One Empire and the Corruption of Another*. Naperville, Illinois: Sourcebooks (pp. 293–294).

183 Moxham (2003: 82).

184 Gelber (2004: 190, 193).

185 Gelber (2004: 201–202).

agrarian communities were recruited as coolies under labour contracts of indentured servitude to work on the tea plantations. Between the 1860s and 1947, more than three million migrant labourers were recruited and transported to Assam's tea plantations. These projects of demographic displacement were conducted by the British on a scale just as grand as the programme of *transmigrasi* in the Dutch East Indies. Many of the indentured labourers for the Assam plantations were so-called *ādivāsī* 'aboriginals', recruited from Austroasiatic language communities of the Choṭā Nāgpur, Bihār and southern parts of the northwestern provinces who migrated to the northeast after the British had started deforesting the plains of Assam in the 1830s and 1840s to make place for tea gardens.

Within their own communities, these people spoke distinct and mutually unintelligible languages belonging to the Muṇḍā branch of the Austroasiatic language family. In the Choṭā Nāgpur, between communities they used Sādarī or Sadānī as a *lingua franca*, which is the Nāgpuriyā dialect of Bhojpuri and sufficiently distinct from Bhojpuri proper to merit separate study. Although these people are today still collectively referred to as *ādivāsī* 'aboriginal' in Assam, which is home to diverse aboriginal ethnolinguistic communities, the *ādivāsī* are in fact themselves not aboriginal to Assam, but to their own native lands in the Choṭā Nāgpur. Because the British tea venture caused them to migrate in such large numbers, they brought with them not just their native Austroasiatic tongues, but also the Indo-Aryan *lingua franca* Sādarī, which is why the first study of the language in 1931 was published by the Tea District Labour Association.[186]

British demographic policies disrupted the historical ethnolinguistic composition of the populace. In some cases, these measures helped to furnish colonial enterprises with a docile labour force, but usually these interventions yielded unanticipated but lingering consequences. After the British occupied the Arracan at the end of the First Anglo-Burmese War (*gerebatur* 1824–1826), the British began moving Bengali labourers into the Arracan from eastern Bengal. These people were the ancestors of many of today's Rohingya people in Burma. Since the 16th century, the kingdom of Arracan အရခိုင် was known to the Portuguese as *Arracão* and is called *Arracan* in Dutch sources. The latter Dutch orthography was adopted by English writers. French and later English sources also used the spelling *Aracan*, and at the end of the 19th century a few English sources adopted the spelling *Arakan*, suggestive of the Bengali name *Ārākān* আরাকান. After the British colonial period, the Arracan became a state of Burma, and in 1989 the Arracan အရခိုင် was renamed Rakhine ရခိုင် by the military junta.

Similarly, at the end of the 19th century, the minority of local *thaluvā muchalmān* থলুৱা মুছলমান [thɔluva musɔlman] 'native Muslim', local Assamese converts, still eschewed beef like their Hindu neighbours, but at the turn of the century an influx of Bengali Muslims from overpopulated Eastern Bengal, today's Bangladesh, was set into motion which continues to this day and has periodically led to eruptions of violence between the indigenous populations of the northeast and the newcomers. At the same time, from the 1920s there has been a growing movement to make the Muslims more strict in their observance of Islamic laws and practices.[187]

For the tea gardens many labourers were also recruited from Bengal and other areas. Whether local Assamese, Bengali, *ādivāsī* or Nepali, what they shared after coming to work in the tea gardens, despite their ethnolinguistic diversity, were high rates of sickness, mortality and consequent desertions, which were sternly punished. Some British publications of the period document and criticise unpleasant working and living conditions, low wages, long working hours and ill treatment.

186 Harry Floor. 1931. *Language Hand-Book: Sadani (The Patois of Chota Nagpur)*. Calcutta: The Tea District Labour Association.

187 Sharma (2011: 99–104).

The system of transporting and employing migrant labour in the tea plantations under indentured servitude was dismantled in 1926.[188] Yet British tea estates in Assam remained the scene of forced child labour, beatings and occasionally unspeakable cruelties on the part of the estate owners.[189]

Another influence to which these displaced peoples were subjected at this time was the proselytisation of the Christian religion by missionaries. After the Haystack Prayer Meeting in 1806, the American Board of Commissioners for Foreign Missions sent Baptist missionaries to northeast India and to Burma, beginning with Adoniram Judson in 1812. The American Baptist Mission established a press in Sadiya in 1836.[190] In the years leading up to the Indian Mutiny of 1857 and subsequently, under the British Raj, India and particularly Assam served as the British home market for the narcotics trade as well as a major area of production.

One government study conjectured that in the 1830s an estimated 80% of the Assamese population had become incidental users of opium. John Crawfurd pointed out in 1837 that the countries between India and China would provide great consumer markets for British opium. By 1852, over one thousand acres were under opium cultivation in Nagaon district alone.[191] As a consequence, the local success of British opium adversely affected the Indian tea project. On the tea plantations, Charles Alexander Bruce complained about the 'the manner in which the miserable Opium smoking Assamese work'.[192] Therefore, in 1861 the local production of opium was banned, but consumption was allowed. Only after the Opium Wars had been waged and won by the British did the newly founded Anglo-Oriental Society for the Suppression of the Opium Trade, beginning from 1874 onward, belatedly oppose the British narcotics trafficking in India and China.

Public opinion had in 1893 finally led to the institution of a royal commission to investigate opium use in India, but in 1894 the commission thought that interference in the opium trade was unjustified, and some planters even paid their labour force a portion of their salaries in opium.[193] The scourge of opium addiction would pass with time, but the demographic effects of British policies have enduringly changed the ecology as well as the ethnolinguistic composition of the northeast.

The tea plantations had vast ecological and demographic effects. Not only were vast swathes of forest converted into tea estates, David Scott's policy of easy settlement terms for the Nepali fam-

188 Rana P. Behal. 2014. *One Hundred Years of Servitude: Political Economy of Tea Plantations in Colonial Assam*. Delhi: Tulika Books.

189 Moxham (2003, 2009). Many recent studies have been devoted to the economic hardship and other social issues facing tea plantation labourers (e.g. Tultul Baruah. 2000. *Mundas in Tea Plantation: A Study in their Health Behaviour*. Dibrugarh: National Library Publishers; Khemraj Sharma. 2003. *The Himalayan Tea Plantation Workers*. Dibrugarh: National Library Publishers; Sarthak Sengupta. 2009. *The Tea Labourers of North East India: An Anthropo-Historical Perspective*. New Delhi: Mittal Publications; Sarah Besky. 2013. *The Darjeeling Distinction: Labor and Justice on Fair-Trade Tea Plantations in India*. Berkeley: University of California Press; Samita Sen, ed. 2016. *Passage to Bondage: Labour in the Assam Tea Plantations* (translated from the Bengali by Suhit Kumar Sen). Calcutta: Samya; D. John Paul. 2016. *A Social Work Approach to the Tea Plantation Labour in India*. New Delhi: Atlantic Publishers). The relations between tea pluckers and tea plantation owners in northeastern India have sometimes been less than idyllic in some places even over sixty years after Indian independence. In December 2012 in Assam's Tinsukia district, a mob dominated by women and children burnt to death Mridul Kumar Bhattacharyya and his wife Rita, the owners of the Tulapathar tea estate, following a labour dispute. In November 2014, Rajesh Agarwal, the owner of the Sonali tea estate in West Bengal, was beaten up and stabbed to death by a crowd over a wage dispute (Dean Nelson. 2012 'Indian tea workers burn boss and his wife to death in Assam', *The Telegraph*, 27 December 2012; BBC News. 2014. 'India tea workers kill owner in West Bengal pay dispute', 23 November 2014).

190 Sharma (2011: 80–94).

191 Sharma (2011: 63, 65).

192 Griffiths (1967: 55).

193 Sharma (2011: 155–168).

ilies of former Gurkha troops, instituted in the 1830s, helped the British policy of moving Nepali labour into the tea gardens that had been set into motion at that time, first into Darjeeling and subsequently into Assam. In the upper Assamese districts of Kamrup, Sibsagar and Lakhimpur there were still few Nepalis in 1879,[194] but by 1901 there were 21,347 Nepalis, and by 1906 they had begun to settle in the sparsely populated Darrang district as well.[195]

The tea growing districts in Bengal are today divided between two new nations. As a country, Bangladesh has existed as a sovereign state since 1971. The turmoil of independence was accompanied by a catastrophic fall in tea output from 34,400 tonnes in 1970 to 12,400 tonnes in 1971.[196] Linguistically, Bangladesh constitutes eastern Bengal, whereas the adjacent and predominantly Hindu area of West Bengal today constitutes a state of India. India and Pakistan were declared independent on the 18th of July 1947 by the passing of the Indian Independence Act by parliament in Westminster. Historically, Bangladesh used to be East Pakistan, constituting the eastern half of the discontinuous bipartite country called Pakistan that was carved out of the former British Raj on the 15th of August 1947, when the Mountbatten Plan was implemented and Partition went into effect.

As a tea producing region, the tea estates of eastern Bengal have been significant producers ever since commercial tea plantations were established in Sylhet in 1854. Most of the tea manufactured in Bangladesh is consumed domestically, and annual production today stands at over 64,000 tonnes. Tea was first introduced into the Halda Valley in the Chittagong and into the Surma Valley of greater Sylhet between 1840 and 1857. Sterling companies own 39 % of the area under tea cultivation and produce 48 % of the tea. Bangladesh produces 1.2 % of the world's tea, but accounts for just half a per cent of tea exports.[197]

Meanwhile in Russia

Olearius also travelled to Muscovy and widely through the Russian empire, and he described the habits of the Russians as well as other peoples whom he encountered on his travels. He noted the Russian predilection for drinking alcohol in various forms, but he also described *kvas* квас or 'Quas'[198] as the beverage of the common man and gave an account of the widespread consumption of caviar or sturgeon roe ('cavojor oder Stöerrögen'),[199] which he praises as 'good food'. In 1647, Olearius recorded the Russian form for caviar incorrectly as *ikari*, but in 1674 the Swedish traveller Johann Philipp Kilburger recorded the Russian word correctly as *ikra* and noted that the German word *Kaviar* was taken from Italian *caviaro*.[200] In 1647, Olearius

194 William W. Hunter. 1879. *A Statistical Account of Assam* (two volumes). London: Trübner & Company.

195 Basil Copleston Allen. 1905. *Cachar* (Assam District Gazetteers, Vol. I). Calcutta: Baptist Mission Press; Basil Copleston Allen. 1905. *Sylhet* (Assam District Gazetteers, Vol. II). Calcutta: Caledonian Steam Printing Works; Basil Copleston Allen. 1905. *Goalpara* (Assam District Gazetteers, Vol. III). Calcutta: City Press; Basil Copleston Allen. 1905. *Kamrup* (Assam District Gazetteers, Vol. IV). Allahabad: Pioneer Press; Basil Copleston Allen. 1905. *Darrang* (Assam District Gazetteers, Vol. V). Allahabad: Pioneer Press.; Basil Copleston Allen. 1905. *Nowgong* (Assam District Gazetteers, Vol. VI). Calcutta: City Press; Basil Copleston Allen. 1905. *Lakhimpur* (Assam District Gazetteers, Vol. VIII). Calcutta: City Press; Basil Copleston Allen. 1905. *Naga Hills and Manipur* (Assam District Gazetteers, Vol. IX); Calcutta: Baptist Mission Press. Basil Copleston Allen. 1906. *Sibsagar* (Assam District Gazetteers, Vol. VII). Allahabad: Pioneer Press.

196 Forrest (1985: 40).

197 Abdul Qayyum Khan. 2012. 'Tea germ plasm and improvement in Bangladesh', pp. 289–297 in Chen, Apostolides and Chen (op.cit.).

198 Olearius wrote: Der gemeinen Leute Geträncke iſt *Quas* (1647: 123), Der gemeinen Leute Geträncke iſt Quaß (1656: 205).

199 This form is also recorded by Olearius as *Cavojar* (1647: 122) and *caviaro* (1656: 204).

200 Johann Philipp Kilburger. 1769. « Kurzer Unterricht von dem rußiſchen Handel, wie ſelbiger mit aus- und eingehenden Waaren 1674 durch ganz Rußland getrieben worden », pp. 245–342 in Magazin für die neue Hiſtorie und Geographie,

FIGURE 9.29
Алексеич, the old servant *Alekseič* tending a samovar, painted by Konstantin Egorovič Makovskiį in 1881, State Tretįakov Gallery, Moscow, Государственная Третьяковская галерея

mentioned no tea in his detailed description of Russian eating and drinking habits because tea was not yet drunk in Russia at the time.

In May 1618, the first Russian embassy to China led by the Siberian cossack Ivan Petlin was dispatched from Tomsk by prince Ivan Semënovič Kurakin, the *voevoda* воевода of Tobol'sk. Because they bore no presents, the cossacks received no audience from the Wànlì 萬曆 emperor (*imperabat* 1572–1620), but ostensibly brought back an imperial missive for the Russian tsar Michael I (Михаил Фёдорович, *imperabat* 1613–1645).[201] An apocryphal legend alleges that tea reached Russia as early as 1619, when these envoys ostensibly brought back a few boxes of tea from China for the tsar. An event of more certain historicity, however, is that in 1638 the Altyn Khan of the Khalkha Mongols gave the Russian envoy Vasiliį Starkov, son of a boyar, 200 *baxča* or packets of tea, each weighing ¾ of a *funt*, making altogether 3¾ *pud*, which in today's measure would just slightly exceed 60 kg. This first cargo of tea was part of a collection of gifts which were sent from Mongolia to Moscow for tsar Michael I. Starkov himself had never seen this commodity before when it was presented to him by the Altyn Khan.[202]

In 1674, the Swedish traveller Johann Philipp Kilburger recorded the Russian word for tea as Tſchay, i.e. *čaį* чай, and he reported that the Russians at

angelegt von D. Anton Friderich Büſching, Dritter Theil. Hamburg: Verlag Johann Nicolaus Carl Buchenröders und Compagnie (p. 252). Ultimately, the word *caviar* derives from Persian *khāviyār* خاویار, whence also Armenian *khaviar* խավիար and Turkish *havyar*. Persian *khāviyār* خاویار appears to be built upon the same root as the etymon reflected in the Persian word *khāye* خایه 'egg, testicle'.

201 The historicity of the legendary mission consisting the two cossack *atamans* Burnaš Jalyčev and Ivan Petrov that was ostensibly dispatched by Ivan the Terrible in 1567 is contested by historians (Mikhail Iosifovich Sladkovskii. 2008. *History of Economic Relations Between Russia and China from Modernization to Maoism*. New Brunswick, New Jersey: Transaction Publishers).

202 Martha Avery 2003. *The Tea Road: China and Russia Meet across the Steppe*. Peking: China Intercontinental Press (p. 115).

this time used tea primarily as a medicinal herb to mitigate the effects of alcohol intoxication.

> ... insonderheit gebrauchet man es zur Verhütung der Trunkenheit, so man es vor dem Trunk einnimmt, oder aber den auf den Trunk entstandenen Rausch zu zertheilen, wenn man es nach der Trunkenheit gebrauchet.[203]

> ... it is used in particular to prevent drunkenness, if taken before drinking, or to dissipate the inebriation caused by drinking, when taken after the drunkenness.

There is no documentary evidence that the drinking of tea as a beverage for its own sake had yet come into vogue in Russia. During his sojourn in China from 1675 to 1678, the Russian envoy Nikolai̯ Spafarii̯, who was Moldavian, observed the drinking of tea, and upon his return to Moscow he mentioned this novel drink in his report on China. Tea was a new commodity, and the overland commerce with China was not yet well developed. Tea in Russian did not begin to become available in any abundance until after the Treaty of Nerčinsk.

Signed in August 1689, the Treaty of Nerčinsk set a new temporary boundary between the expanding Russian and Chinese empires, and opened a trade route for tea between China under the Kāngxī 康熙 emperor (*imperabat* 1661–1722) and Russia under tsar Peter the Great (*imperabat* 1682–1725). Camel caravans carried brick tea from the Manchurian town of Kalgan [< Mongolian *xaalga* хаалга 'gateway'; Mandarin *Zhāngjiākǒu* 張家口], today in Hébĕi 河北 province, to the town of Kyakhta [< Mongolian *xiag* хиаг 'couch grass'; Russian *Ki̯axta* Кяхта], on today's Russian-Mongolian border, whence the tea was transported onward to Russia. Unlike Western Europe, which imported tea from across the sea, Russia imported black brick tea overland through Mongolia and across Siberia from Yánglóudòng 羊樓洞, the historical trading centre for tea grown in the region that today comprises Húbĕi and Húnán provinces. Today Yánglóudòng has been dwarfed by the city of Chìbì 赤壁, which is now engulfing it from the northeast.

It is likely that in this period, some in Russia had begun to drink tea as more than just a remedy to mitigate the effects of impending intoxication or to alleviate the effects of a hangover. What is certain is that tea drinking caught on in aristocratic circles when Peter the Great returned from Holland to Russia in the early summer of 1698. One of the many devices with which he returned from Holland was a version of the samovar, first developed by Jan de Hartog in The Hague in the 1670s. The design of the samovar was further refined in Russia into the classical Russian model, and its use grew in popularity during the reign of tsarina Elizabeth (*imperabat* 1741–1762).

For the great Russian literary figure Alexander Pushkin, the samovar was a symbol of Russian civilisation. In his novel in verse *Eugene Onegin*, first published in 1833, he evokes the image of its central role in Russian afternoon tea.

> Смеркалось; на столѣ, блистая,
> Шипѣлъ вечерній самоваръ,
> Китайскій чайникъ нагрѣвая,
> Подъ нимъ клубился лёгкій паръ.[204]

> Dusk fell, and on the table, gleaming,
> Stood the hissing samovar for the evening,
> The Chinese teapot stood on it warming,
> And underneath the steam was swirling.

In 1727, the Treaty of Kyakhta further delineated the border between the Russian and Chinese empires inside the Mongolian territory west of the Angun river, and the camel caravans carrying tea to Kyakhta became more frequent. Chinese sources record that the volume of tea passing though Kyakhta in the year 1750 had reached roughly 7,000

203 Kilburger (1769: 271).

204 Александъ Сергѣевичъ Пушкинъ. 1833. *Евгеній Онѣгинъ, Романъ въ стихахъ*. Санктпетербургъ: Въ типографіи Александра Смирдина (Глава III, строфа XXXVIII).

FIGURE 9.30
За чаепитием 'whilst drinking tea', painted by Aleksandr Ivanovič Morozov (1835–1904), The Fëdor Akimovič Kovalenko Regional Art Museum, Krasnodar, Краснодарский краевой художественный музей имени Фёдора Акимовича Коваленко

pud or about 115,000 kg of black brick tea and roughly 6,000 *pud* or around 98,000 kg of loose-leaf pekoe of better quality.[205] During the reign of Catherine the Great (*imperabat* 1762–1796), the consumption of tea in Russia grew tenfold, reaching 1.36 million kg.[206] Tea was initially a privilege only within reach of the Russian élite, but by the 19th century imports of tea from China had ballooned.

Like the original samovar which Peter the Great brought from Holland in 1698, the early Russian samovars were individually hand-crafted by pewterers in St. Petersburg. The transition from artisanal manufacture to production on an industrial scale came in 1778, when Fëdor" Ivanovič" Lisitsyn" (Фёдоръ Ивановичъ Лисицынъ) and his son Nazar" (Назаръ) opened the first samovar factory in Tula, where a concentration of smiths and metal workers had resided ever since the reign of tsar Michael I (*imperabat* 1613–1645). By the middle of the 19th century, samovars were being mass produced on production lines in the factories at Tula. From the 1820s, samovars spread to Central Asia, Persia and Afghanistan. From 1825, the beautiful samovars manufactured in the factories of Ivan" Grigor'evič" Batašev" (Иванъ Григорьевичъ Баташевъ) and his sons were especially valued.[207] In 1977, I had the pleasure of witnessing Russian samovars as tall as a man, embossed with the Russian imperial coat of arms and other round medallions and crests in several چایخانه *čaikhāna* in Herat, Kandahar and Kabul, where turbanned men of all ages sat cross-legged on top of carpeted tables and drank tea.

After the Second Opium War (*gerebatur* 1856–1860), the Russian tea trade moved from Yánglóudòng to the Russian concession at Hànkǒu 漢口, a city which has since then been swallowed up in the agglomeration of Wǔhàn 武漢. Here in 1861 a factory was set up to manufacture brick tea specifically for export to Russia. The Suez Canal opened in November 1869, and some Russian tea from Hànkǒu could also be shipped to Odessa rather than sent on the arduous journey overland. At this time, the Russians also began procuring tea from Jiǔjiāng 九江. By the end of the 19th century, the Russian market began to see shipments of

205 Mair and Hoh (2009: 142).
206 Weinberg and Bealer (2001: 92).
207 Mair and Hoh (2009: 158–159).

various types of Chinese teas, including teas from Cantonese ports, as well as the new British black teas from India and Ceylon. The finer teas were known to very few, and most consumption still involved black brick tea produced especially for the Russian market, whilst poorer Russians sometimes had to content themselves with fake or counterfeit tea, made from foliage of various descriptions.

The Russian predilection for drinking black tea quite strong no doubt originates in the particular medicinal function which tea originally served in the Russian context, as recorded by Kilburger in 1674. Traditional Russian tea is black brick tea, from which very strong tea or *krepkiĭ čaĭ* крепкий чай is brewed. The water for the tea is heated in a samovar, which keeps the water hot for a long time and is also used to warm the teapots. The traditional Russian way of preparing tea involves two teapots, or a teapot and a kettle. In one small teapot, the tea is brewed in a highly concentrated form. This concentrated tea is poured into the cups and then diluted with hot water from a second teapot containing hot water or from a water kettle. Depending on the taste of the individual tea drinker, sugar, lemon, honey, jam, milk or cream can be added to the tea. Russian tea can also be rendered alcoholic by adding balsam, rum or cognac.

Some Russian tea drinkers still practise the old custom of drinking tea *vprikusku* вприкуску, i.e. whilst holding a small chunk of hard candy sugar between their teeth so that the tea washes past the sugar and picks up sweetness on the way. Some who indulge in this nostalgic practice claim that it does not spoil the taste of the tea, as does adding sugar directly to the tea. The Russian practice was no doubt also introduced by Peter the Great upon his return from Holland, for the tsar surely had occasion to observe the practice in Holland. Though this habit is now long defunct in the Netherlands, Dutch tea drinkers with a sweet tooth once practised this custom, first witnessed by Jacob de Bondt in the Dutch East Indies. However, most Dutch tea drinkers then drank their tea unsweetened, as do the Chinese.

In the Far East and in the West, tea is drunk from porcelain cups, but in Persia, Turkey and the Arabian countries tea is usually drunk from tea glasses. After experiments in porcelain manufacturing at Oranienbaum near St. Petersburg in the 1740s, Russia began to produce its own porcelain by the end of the reign of Catherine the Great. Yet traditionally Russian tea has more often been drunk in glasses in fancy holders than in teacups. In 1873, the posthumously published *Grand Dictionnaire* of Alexandre Dumas recorded that in Russia drinking from glasses was evidently considered more virile,[208] and he noted …

> une habitude particulière à la Russie, et qui ne laisse pas au premier abord de choquer singulièrement les étrangers, les hommes boivent le thé dans des verres, et les femmes dans les tasses de Chine.[209]

> a custom particular to Russia, which never fails to shock foreign visitors the first time they see it, which is that the men drink their tea from glasses, whilst the women drink their tea from China cups.

Dumas explained the provenance of a Russian expression pertaining to the strength at which the tea is brewed. The first teacups in Russia were manufactured at Kronstadt, and these cups depicted a view of the city on the inside at the bottom of each cup. When the tea was too weak, people would complain that they could see Kronstadt.[210]

208 Kitti Cha Sangmanee once observed that in contemporary French society traditional cast iron vessels from the Far East offered a beauty 'plus masculine que la porcelaine' to those European men who have come to associate tea with 'porcelaine à fleurs' (Stella 2009: 156).

209 Dumas (1873: 1027).

210 Dumas (1873, p. 1027). Dumas also erroneously assumed that the best teas must be available in Moscow and St. Petersburg because he reasoned that the Russian empire shared a land border with China and 'le thé n'a pas besoin de tranverser la mer pour venir à Moscou ou à Pétersbourg, et les voyages par mer nuisent beaucoup au thé'.

The tea trade by camel caravans which plied the tea trail from China to Kyakhta had first faced stiff competition from maritime transport after the opening of the Suez Canal in 1869, but the knell for the camel caravans was sounded on the 30th of March 1891, when tsar Alexander III (*imperabat* 1881–1894) issued an указъ *ukase* announcing the construction of the Great Siberian Way (Великій Сибирскій Путь). By the time of its completion in 1916 under tsar Nicolas II (*imperabat* 1894–1917) this railway connecting St. Petersburg on the Baltic Sea across Eurasia to Vladivostok on the Pacific was called the Trans-Siberian Railway (Транссибирская желѣзнодорожная магистраль). Trains began running on this line in 1901, and upon the completion of the extension called the Manchurian Road (Маньчжурская дорога), from July 1903 regular services connected Port Arthur (Yàsè Gǎng 亞瑟港) to St. Petersburg via Vladivostok, and the old tea caravans to Russia were no more.

One of the tea merchants during this period, Pavel Mikhailovič Kuz'mičëv (Павел Михайлович Кузьмичёв), opened a boutique at St. Petersburg in 1867 and soon became the purveyor of tea to the imperial court.[211] At the outbreak of the revolution in 1917, Kuz'mičëv went into exile in London, but in 1920 relocated to Paris, where he set up his tea business again. The company has changed hands several times, and its current *avatār* is the Parisian company Kusmi Tea. The English Tea House, which opened in Paris near Madeleine one year earlier, in 1919, still exists today under the guise of the Parisian tea company Betjeman & Barton.

Meanwhile, despite the economic hardship that was to characterise life in the Soviet Union, Russian tea drinkers maintained high standards. Forrest recorded how, in the early 1980s, the Union of Soviet Socialist Republics was absorbing 'much of the best Indian tea, from fine Darjeeling to the better CTCs of Assam and the South'. In 1983, the finer black teas produced in Georgia were destined mainly for Soviet consumers, whilst the fannings and dust, 'not being acceptable to the Russian housewife', were 'sent summarily into exile, mainly to the decadent West',[212] where the lowest grade of tea packaged in tea bags had become the most popular tea.

Orthodox Tea and the Invention of Brown Tea

The first tea that the French procured from Holland was naturally either green tea or Bohea tea. Following the recommendation published in 1676 by the well-travelled Tavernier, Dufour stressed in 1685 that the best tea should be as fresh as possible and that the infusion should be greenish in colour, having *une couleur verdâtre*.[213] Yet Alexandre Dumas recorded that by the second half of the 19th century green tea was rarely seen in France,[214] and today tea in the West most often comes in the shape of a brown brew steeped from a tea bag. Green teas are parched by firing in a wok, roasted or steamed to prevent fermentation, i.e. oxidation. Drying takes place under a low heat, and sometimes the leaves are rolled into balls or special shapes, especially in Yúnnán.

The type of tea that was called Bohea tea at the beginning of the 17th century was presumably an amorphous category out of which grew the teas that would later be categorised as either 'blue' or

211 Other famous Russian tea firms in Moscow and St. Petersburg before the revolution included Botkin" (Боткинъ), Perlov" (Перловъ), Popov" (Поповъ), Vysockij (Высоцкій), Kusnecov" (Кузнецовъ) and 'Caravan' (« Караванъ ») (Ксения Ермолаевна Бахтадзе. 1961. *Развитие культуры чая в СССР*. Тбилиси: Издательство Академии Наук Грузинской ССР.) The list of less known Russian tea firms is much longer, of course; cf. Иван Алексеевич Соколов (2011. *Чаеторговцы Российской империи: Биографическая энциклопедия*. Москва: Самарская городская общественная организация «Союз молодых учёных», 2012. *Чаеторговые фирмы Российской империи и их товарные знаки*. Москва: Самарская городская общественная организация «Союз молодых учёных»).

212 Forrest (1985: 151–152).

213 Dufour (1685: 209).

214 'Le thé vert est rarement usité en France' (Dumas 1873: 1027).

'red' in the classificatory system later developed during the Manchu period. Today's oolongs are not fully fermented. A light fermentation of, say, 14% is preferred in China, whereas a heavy oxidation of around 60% is generally preferred by Westerners. Black teas or *hóngchá* 紅茶 'red tea', by contrast, are fully oxidised. A number of causes that have led to the spoiling of the Western tea palate have already been presented and discussed in their historical context.

The original distinction was the division into green tea and Bohea tea, whereby the green tea was the more favoured. Good green tea was harder to obtain, then just as it is today. On long sea voyages, Bohea tea travelled better than green tea, for green tea had to remain fresh. When tea was not properly sealed, the adverse effects on green tea were more drastic than on Bohea. Green tea was far more expensive than Bohea tea, but drinkers on the Continent still preferred green tea if they could afford it. The different duties and taxes on green and Bohea tea rendered the price gap between the two less dramatic, which may have prevented the sales of green tea from benefitting from the 'caviar effect', whereby an exorbitant price highlights the exclusivity of a product.

Afterwards, the distinction between green tea and Bohea was translated into the opposition between green and black tea, as more varieties of oxidised tea became available, such as Congou, which in due course overtook Bohea in popularity. After the trade hub moved from Batavia to Canton, the types of tea that were available changed. The teas known by their Hokkien names were overtaken in popularity by the teas known by their Cantonese names, both listed in Chapter Six. In Canton, the newer varieties of black tea, such as keemun, entered the market. Tea adulteration was always a concern because most Europeans knew so little about tea that the leaves of other plants and dyes could be, and were, added to low-grade tea. The knowledge that tea could be adulterated was bad enough, but the news that tea could be dyed to create fake green tea no doubt put off many a tea drinker.

When the production shifted to Java, India and Ceylon, the Dutch and English produced tea as best they could. At first, all tea was orthodox. The term *orthodox* in British tea parlance was introduced to denote leaf tea only much later, at a time when most tea produced was no longer 'orthodox'. The orthodox Anglo-Indian method is to first wither the tea. Freshly plucked leaves are juicy and brittle and snap if they are folded. At this stage, they cannot yet be easily rolled. Therefore, the leaves are withered in sunlight or, more usually, indoors in the shade on withering trays or racks in a large warm ventilated room until they become a bit flaccid. Withering involves allowing the leaves to dry for six hours with warm air at a temperature of about 32°C. Withering removes between 50% to 80% of the moisture in the leaves. Workers may squeeze a handful of tea to assess how limp it has become and whether the withering has attained the desired stage.

Subsequently, the leaves are rolled, thereby crushing and twisting them, releasing the sap and exposing the tea to oxidation. This process triggers the 'fermentation', which brings out the aromas characteristic of black tea. Fermentation is the oxidation of the natural chemicals in the leaf. To enhance fermentation the tea leaves are rolled, i.e. knocked about a bit and bruised. This process was formerly carried out by hand, but has now been largely mechanised. In a cool, damp place the rolled tea is left to 'ferment' in large trays in a layer 3 to 6 cm deep for 1 to 3 hours, during which time the green tea begins to acquire a russet or copper colour. The rolling process and the duration of the ensuing fermentation can be tweaked to attain what the tea planter considers to be an optimum balance between appearance and fragrance.

To terminate the fermentation process the leaves are dried at temperatures between 95° and 100°C for 25 to 30 minutes. Nowadays the process is more often arrested by drying the tea with hot air on conveyor belts at 85° to 88°C. The drying reduces the moisture content in the leaves so that they retain only between 3 to 12% of their original moisture. Leaves retaining a higher percent-

age of moisture would be too susceptible to mould. Finally, the tea is graded and sorted in a number of categories. The advent of oxidised Dutch and British black tea led to the rapid disappearance of fragrant green and semi-fermented tea from the market. Initially, much of this new Dutch and British type of leaf tea was unsaleable. By mechanising the process of tea manufacture and aiming for an oxidised black tea, the British and Dutch strove to make up for their inability to handcraft tea properly and promptly after harvesting the leaves.

Around 1877, John Peet introduced to Java from India the newly developed English mechanised methods for producing tea.[215] What Javanese and Indian teas used to taste like in the 19th century we cannot say, but the few contemporary appraisals and the initial response of the market showed that the teas were of poor quality in comparison with what the discerning tea drinkers of the period were used to in the West. In addition to the lack of knowledge about the craftsmanship of curing and manufacturing tea, which had been carefully safeguarded by the Chinese, the difference in terroir and climate led to a finer and more aromatic product in Darjeeling than could be produced in Assam or Java. There were dedicated tea tasting stations in Java, just as there were in London. In 1893, a *theeproefstation* 'tea research station' was established at Buitenzorg,[216] and a British tea research station was established at Tocklai টোকোলাই in 1912. The Tea Research Institute of Ceylon was established in 1925.

The orthodox leaf teas of the Dutch East Indies and British India strove to emulate the various recognised types of the Chinese original. For want of traditional tea manufacturing knowledge, many of the initial attempts were recognised to be failures, but in due course the product which arose in the colonial gardens constituted an essentially new genre of tea in its own right. The teas from different gardens and manufacturers were naturally of heterogeneous quality. Whilst some tea stubbornly remained of inferior quality, a fair number of the new orthodox leaf teas began to enthral tea connoisseurs with their varying symphonies of aromatic substances and differing proportions of theaflavins and thearubigins, each presenting a different palette of aromatic notes. Notably, the wonderful terroir of Darjeeling famously began to produce a diversity of teas, some of which were exquisite.

The fact that tea in England was most often taken with milk and sugar in order to mask the bitterness of Chinese black teas no doubt worked just as well with the new Indian tea, much of which dismally failed to attain the floral subtlety and richness of the finer orthodox teas of Darjeeling. In fact, the development of British style black tea was a boon for the sugar industry. Another technique that facilitated the acceptance of Indian tea likewise predated the switch from Chinese tea to Indian tea, and this was the addition of flavourings. The most famous flavoured tea today is Earl Grey, but its origins are contested. Charles Grey, the 2nd earl Grey, was prime minister from 1830 to 1834. The prime minister Grey is not to be confused with his father, the general Charles Grey (1729–1807), who conducted successful military campaigns against the disloyal insurrectionists in the British colonies during the American war of secession and so became the 1st earl Grey. The 2nd earl Grey is credited with flavouring tea with the oil derived from the zest of the bergamot orange.

Some have claimed that the prime minister first received a modicum of Chinese tea flavoured in this way in a diplomatic perquisite.[217] Jackson's of Piccadilly claimed to have produced Earl Grey tea since 1830, in which year the 2nd earl Grey ostensibly gave the recipe to George Charlton of Robert Jackson & Company.[218] Sam Twining today claims

215 ter Molen (1979: 33).

216 Ch.-J. Bernard. 1924c. 'De geschiedenis van het theeproefstation', blz. 165–174 in Cohen Stuart (op.cit., blz. 166).

217 Kit Chow and Ione Kramer. 1990. *All the Tea in China*. San Francisco: China Books and Periodicals (p. 180); Jane Pettigrew. 1997. *The Tea Companion*. London: Quintet Publishing (pp. 68–69).

218 Margareta Pagano. 1985 'The secret of Earl Grey tea is

that in 1832 it was Richard Twining the younger who prepared a tea flavoured with the oil of bergamot zest for the prime minister, who thereby gave the tea his name.[219] Richard Twining the younger was amongst those who tasted the first dispatch of Himalayan tea to England, which arrived at London in January 1839, when this new type of tea was found to be unsatisfactory. One not quite adequately studious author even brashly claimed that the 2nd earl Grey himself branded and sold this tea and thus 'made a great name for himself by selling Chinese tea under the brand name of Earl Grey tea'.[220]

The actual origins of Earl Grey tea are therefore contested, with several contenders wishing to take credit but all conceding some role to the 2nd earl Grey. Whether or not the flavouring was first observed in Chinese tea, where such a flavouring was previously unattested, the bergamot zest oil soon began to be used as a flavouring to mask the rough taste of the new genre of English black tea from India, and to this day Earl Grey tea is characteristically made on the basis of black tea. Today only Jackson's of Piccadilly 'still' makes Earl Grey tea on the basis of Chinese tea, which they claim is their original recipe. In light of the failed attempts of the British tea industry in Assam to replicate Chinese tea in the 1840s and 1850s, the already ingrained English habit of sweetening tea with sugar and adding milk or cream also helped to disguise the harshness of the new English black tea. Flavourings such as those used in Earl Grey, though originally made with Chinese tea, were also useable techniques for disguising the harshness of the new British product.[221]

changing hands at last—Sale of Jackson's of Piccadilly to Fitch Lovell Food Manufacturing Group', *The Guardian*, 3 July 1985.

219 Samuel H.G. Twining. 1999. 'L'héritage d'une famille', pp. 56–63 in Barrie and Smyers (op.cit.).

220 Wong (1998: 188).

221 Lady Grey is a brand of Twining's introduced in the 1990s in an attempt to make a milder version of Earl Grey tea. In addition to bergamot zest oil, the black tea is flavoured with some lemon peel, orange peel and lavender.

A new Dutch tea nomenclature arose in Java in the 1820s and 1830s. This terminology was adopted in India and elaborated with newer terms, newer meanings and arcane abbreviations in the British grading systems developed in the 1840s and 1850s. Yet on Indian tea plantations, the pickers too have their own vocabulary, since these women and men see the tea tips themselves each day. The flush is generally the flower bud and the two youngest leaves. When the apical buds are picked, thus removing the apical meristem, a silent side bud at the base of the next petiole further down the stem becomes active, and sometimes as many as three side buds below the pluck may become active.

In Nepali, the *lingua franca* of the tea gardens in the hills of Darjeeling district, the adage of tea pluckers—*ek pāula dui pāt* एक पाउला दुई पात 'one bud two leaves'—encapsulates the simple traditional tea knowledge that had been so hard won from China by the Dutch and the English only after decades of effort and exertion. Meanwhile, in British Indian gardens, a local nomenclature arose all its own. In addition to normal leaves, small unfurled *mīn* मीन 'fish' leaves with a blunt tip and no serration may also occur on the stalk. When two such leaves occur in succession, then the lower of the two is referred to as a *janam* जनम 'spawn'. These stunted 'fish' leaves do not yield good tea. After the development of several normal leaves, the leaf primordium will itself sometimes yield a dormant apical bud, which is then referred to as a *bā̃jhī* बाँझी 'infertile, unproductive one'. These natural periods of dormancy in response to plucking have long formed the object of study.[222] Such matters are all detailed in Bald's 1917 textbook on tea cultivation in British India, which conserves an accurate historical picture of the production of 'orthodox' tea a century ago, before the process became unorthodox through the mechanisation of tea manufacture.[223]

222 W. Wight and D.N. Barua. 1955. 'The nature of dormancy in the tea plant', *Journal of Experimental Botany*, 6 (16): 1–5.

223 Claud Bald. 1917. *Indian Tea: Its Culture and Manufacture, being a Textbook on the Culture and Manufacture*

Mechanisation was seen as the solution for the tea quality deficit, and the new production processes resulted in new grades of tea. From 1930, William McKercher's cutting, tearing, curling (CTC) machine, which produces the lowest grade of tea denominated fannings and dust, quickly dominated production in India, Ceylon and Africa. Instead of gently rolling the black tea after the fermentation and firing, the withered leaves are passed through a shredder. The tea leaves are ripped apart by the sharp teeth of the shredder's cylindrical rollers and then processed on a conveyor belt. Some people in the tea industry decrypt the abbreviation CTC as 'crush, turn, curl' instead of 'cut, tear, curl'.[224] The quality of CTC tea is more consistent, and the liquor is stronger in taste and intenser in colour, but the tea is neither fine nor fancy, for the CTC process diminishes the delicate natural flavours of tea and is therefore not popular with tea connoisseurs.

McKercher's new machine even led to a further elaboration of the English tea grading nomenclature. Depending on how extensively the fully oxidised tea leaves have been obliterated by this machine, the shredded product is categorised, in increasingly finely particulate order, as *broken pekoe one* (BP1), *broken pekoe* (BP), *pekoe fannings one* (PF1), *pekoe fannings* (PF), *pekoe dust one* (PD1), *pekoe dust* (PD) or merely as *dust* (D).[225] Even before the introduction of CTC in the 1930s, advocates and implementers of mechanised tea manufacture, such as Braund in Batavia in 1924, pointed out that a tendency toward overfermentation was a danger inherent in the use of mechanised procedures.[226] The modern mainstream drinker of CTC tea brewed from tea bags is, however, usually already inured to the harshness of this fully oxidised product, for it is precisely the type of tea that Braund warned against that most of today's Western tea drinkers have been brought up with.

In addition to this crushing, tearing and curling (CTC) machine, two newer mechanised tea processing machines were developed. In 1971, an apparatus known as the Lawrie tea processor (LTP), invented in Britain, made its first appearance in Tinsukia district in Assam. This more compact but noisy machine pulverises tea by hammering the leaves to smithereens. First the leaves are preconditioned with a Rotorvane which minces the leaves, developed by Ian McTate in the 1950s in Assam. In contradistinction to the fine leaf teas, which by this time had come to be described as 'orthodox', the new product, whether shredded by CTC or LTP processing, has sometimes been referred to as 'brown' tea. Although technically black tea, the brown tea developed in the 1930s is ubiquitous today. Brown tea is not just fully oxidised but has also been mechanically shredded and thereby rendered relatively uniform. By the 1980s, over 75 % of all the tea produced in India was CTC, and less than a quarter was 'orthodox'. The fannings and dust go into tea bags, in which the tea takes just two to three minutes to brew. British companies still controlled most of the tea in India until the Foreign Exchange Regulation Act went into effect in 1974, after which Kenya quickly took over India's place as the main supplier of tea to the United Kingdom.

Curiously, during the Japanese occupation of Formosa, which lasted from 1895 until 1945, an attempt was undertaken to produce British style black tea. The system of grading this black tea adopted some terms from the British nomenclature. Orange pekoe was newly produced for the American market alongside the traditional Formosan oolongs, pouchongs and flower-scented oolongs. The Formosan orange pekoe in this period was essentially an oolong that was fermented longer than usual to take on some of the character-

of Tea. Calcutta: Thacker, Spink & Company; For an even earlier picture of the state of the art at Darjeeling, cf. Anonymous. 1888. *Notes on Tea in Darjeeling by a Planter*. Darjeeling: Scotch Mission Orphanage Press.

224 e.g. Usha Chakraborty and Bishwanath Chakraborty. 2004. 'Current status of tea research and production in India', *ICOS*, 2: 47–50.

225 Forrest (1985: 15–17, 208).

226 H.J.O. Braund. 1924. 'A few points of manufacture of tea for market', pp. 119–157 in Rutgers (op.cit.).

istics of black tea. *Souchong* 'small sort' were black small-leaf teas, though later big-leaf teas came to be traded under this denomination.

In 1924, the highest per capita tea consumers in the West were the Australians, British and Dutch in that order. Russians would have been a close fourth place, but after the First World War, the availability of tea had temporarily suffered. Braund reported that a large proportion of Darjeeling tea went to Scotland, where tea drinkers wanted flavour, whereas Australians and Irishmen preferred tea that was strong and pungent and consequently consumed lots of broken leaf pekoes, which quickly yielded a dark and strong infusion. On the basis of his long experience in the tea trade, Braund observed:

> I cannot say that the Englishman is very particular about the quality of the tea he drinks,—although it is noted that he requires a better article now than he did a few years ago,—say, before the war … The American doesn't seem to mind so much the quality of the tea he drinks, so long as it looks well, consequently he buys greatly of Orange Pekoes, and well made teas.[227]

This statement was made in 1924, six years before the shredded and fully oxidised brown tea or CTC tea was developed.

The transformation of Western taste sensibilities had begun half a century before brown CTC tea was invented, however. Until the 1870s, Assam tea was usually used just to cut and give body to Chinese tea because it was not considered of adequate quality to be drunk on its own. Yet the imperial British product soon came to be appreciated in the British Isles, though it was coarser. During the 1880s, consumer tastes were retrained so that it became possible to sell straight British Indian tea. In 1884, already more tea was imported into Britain from South Asia than from China, although green tea was still preferred in America and on the Continent. In the 1880s, Thomas 'Tommy' Lipton, a millionaire grocer, went into tea and set up plantations in Ceylon. He standardised the production of tea, and mass production insured stable quality at half the price. Like the tea of Assam and Bengal duars, Ceylon tea was less exquisite than the fine Darjeeling teas.

Major tea producing areas in India are in the upper Brahmaputra basin between Gauhati to Dibrugarh, in the Cachar hills, in the western duars south of Bhutan and in Sikkim and Darjeeling. There are also tea plantations west of Ranchi, in the Nilgiris and Ooty and in the area where the state borders of Kerala, Karnataka and Tamil Nadu meet. Also many tea plantations straddle the frontier between Tamil Nadu and Kerala from the Kanan Devan hills up to Coimbatore. The teas of the duars and Assamese teas are bold and colourful, principally because of the terroir and the way that the teas are manufactured. Assam has three flushes, first, second and autumnal. In the south, tea is grown at Ooty and Coonoor in the Nilgiri hills, in Wayanad and at Munnar in Idukki district in Kerala, in Coorg, Hassan and Chikmagalur in Karnataka.

Darjeeling tea is customarily sold either by means of private sales or at auction, with the lion's share, comprising roughly 5,000 tonnes, traditionally being auctioned by J. Thomas & Co. in Calcutta. Since June 2016, however, the Darjeeling tea has been traded digitally on the Indian Tea Board online auction platform, though tea planters can sell up to 50% of their harvest by traditional means to their favoured buyers. Lower-value tea grown and sold in other parts of India has already been auctioned online since 2009. Darjeeling tea accounted for less than 1% of the more than one million tonnes harvested in India in 2015, but Darjeeling produces most of India's finest leaf teas. Today end users are able to bid directly, especially not just for CTC tea but also for rare high-end teas, and this new development will put many disgruntled intermediaries out of business. However, import tariffs on postal or courier delivery will

227 Braund (1924).

enable governments in some countries to foil and spoil this boon of the internet for their citizens.[228]

The new brown CTC tea made it possible to brew a strong cup the colour of weak coffee. People became accustomed to a new product which had previously not existed in the history of tea. New sensibilities were cultivated. Whereas the overwhelming flavour of coffee can outshout the taste of plastic cups, metal beakers, paper cups and even styrofoam containers, good tea requires vessels of porcelain or glass. Serving *gyokuro*, fine *sencha* or a delicate Chinese green tea from a plastic vessel which itself exudes a palpable odour makes no aromatic sense. The differences in taste between various types of coffee, from luwak coffee and arabica to robusta and encompassing various types of roasts, though quite real, are confined within a very narrow spectrum when compared with the aromatic diversity of tea. The tastes of teas vary far more widely, just as the scent of one perfume can vary from the next. Since the rise of CTC tea, the skill, knowledge and sensitivity required to prepare a good cup of tea have become astonishingly rare assets today. Today one may often witness the untrained staff in some Japanese eateries in the West routinely pouring scalding water onto *sencha*.

Great coffee is available to all at cafés lining the streets of Rome or Paris, and in the United States some establishments aim to provide real coffee as distinct from the panoply of modern American coffee-based drinks. By contrast, public establishments serving the highest grades of tea are a veritable rarity outside of the Far East. Many avid tea drinkers in the West have never tasted the finest teas, yet would no doubt relish unadulterated fine green leaf tea or lightly fermented oolong leaf tea if given the opportunity to sample and savour them. Sadly, the domestic demand in China for the finer teas far outstrips the supply notwithstanding the high prices, and the Chinese have long followed the practice of selling lower-grade teas to foreign 'barbarians' who cannot taste the difference anyway. Brick tea is sold to Tibet, where it is mixed with salt and butter, which is usually fresh but may on occasion taste a trifle rancid to the Western palate. Black keemun was sold in the Canton trade which was used by Englishmen to prepare their hearty brew of milk, sugar and steeped tea leaves.

The most exquisite and finest leaf teas are hardly exported from China and Japan, and mostly consumed domestically. The scarcity of the highest quality Chinese and Japanese teas outside of these countries makes perfect sense because most tea drinkers in the West today, where the Western palate has been blunted by the new genre of brown CTC tea, do not know the value of the diverse fine leaf teas, nor how to prepare them properly.

In the West, much Chinese tea is not what it appears to be. Hunter furnishes a scathing and dismal report of the teas available in North America, where those sold as premium grade Oriental teas in grocery stores are virtually all low-grade teas.[229] North American fast food chains have demonstrated that lots of money is to be made by catering to the lowest common denominator in gastronomical terms. Black teas and commercial Chinese teas available in the West are routinely mixed from different batches, different harvests, different places and even different grades. Most 'green' teas on the market in the West are astringent and harsh, yet insipid in flavour and aroma. By having been weaned on McKercher's brown CTC tea, tea knowledge is probably rarer in the West today than it was in genteel milieux in western Europe in the 18th century.

Long lists of once prominent British and global tea producers, many of whom have come and gone, were catalogued by Ukers and Forrest before they passed into oblivion.[230] Sarin and Kapoor provide a cursory introduction to today's major players in Indian tea.[231] In fact, the market is vast and fluid

228 Amy Kazmin. 2016. 'Darjeeling tea leaps into the digital era', *Financial Times*, 2 June 2016.

229 J.T. Hunter. 2013. *Wild Tea Hunter*. Kunming: Wild Tea Qi Publishing.

230 Ukers (1935), Forrest (1973).

231 Sarin and Kapoor (2014: 50–56).

and features an ever changing cast. Major British tea brands in the 20th century have often changed hands. Horniman's Tea Company was founded in 1826 on the Isle of Wight at Newport and was the biggest selling company in Britain in 1891. Horniman's was acquired by Lyons in 1918 and is currently owned by Douwe Egberts. Brooke Bond, founded by Arthur Brooke in Lancashire in 1869, developed the brand PG Tips in 1930, but both were acquired in 1984 by Unilever, which also managed to buy up Lipton in stages.

Charles Taylor established a tea business in 1886 that was purchased by Betty's in 1962, and Betty & Taylor's now has a 6 % share of the British market. Typhoo, which originated in 1903 as a tea blend sold in John Sumner's Birmingham shop, was taken over by Cadbury-Schweppes in 1968, subjected to a managed buy-out in 1984, acquired by a private equity firm in 1990 and then in 2005 sold to Appejay Surrendra Group. Twining's was acquired by Associated British Foods in 1964, which later also acquired Jackson's of Piccadilly. Lyons, which opened its first tea shop in Piccadilly in 1894, was acquired by Allied Breweries, which in 1961 also acquired the Tetley brand. Allied Breweries merged the two brands for a time in 1978, but after a managed buy-out Tetley was sold to Tata Group in 2000.[232]

Coffee Serendipitously Gives Way to Tea

During the Dutch colonial period, the coastal regions of Ceylon were under Dutch administration, but the kingdom of Kandy covering the mountainous and thickly forested interior remained independent. So, when the Dutch began cultivating coffee in Ceylon in 1658, their plantations were necessarily in the littoral regions. In 1795, the British moved in and seized Dutch Ceylon when Napoléon overran the United Provinces and set up a French vassal state known as the Batavian Republic. The Dutch monopoly on the cinnamon trade was replaced by a British monopoly. Almost immediately, in 1796, armed conflict broke out between the Kandyans and the British. The British waged three wars against the kingdom of Kandy between 1803 and 1818, and finally annexed Kandy so that the entire island came under British control.

Subsequently, three uprisings had to be put down, and the region was only pacified from 1824. In 1828, governor Edward Barnes established a residence for himself at Nuvara Eliya නුවරඑළිය (நுவரெலியா), opened a sanatorium and commenced the construction of a road to Nuvara Eliya from Kandy. Under his administration, crown lands were sold cheaply, and in the 1830s entrepreneurs setting up coffee plantations were able to establish themselves in the more suitable highland parts of the island for the first time. Just as the tea plantations in Assam and Darjeeling had led to demographic changes through the massive influx of tea pickers from the Choṭā Nāgpur, Nepal and Bengal, the coffee plantations in Ceylon employed nearly a million seasonal labourers who were brought to Ceylon from the Tamil country in southern India to work on the coffee plantations between 1843 and 1859 due to a local shortage of manpower. British coffee planters destroyed most of Ceylon's natural rainforests and exterminated many of Ceylon's elephants just for the alleged sport of it.[233]

Experimental tea plantings were set up at the Royal Botanic Garden at Pērādeṇiya පේරාදෙණිය and at Nuvara Eliya in 1839 with the seeds of the *assamica* cultivar sent by Dr. Wallich from Calcutta. The chief justice Anthony Oliphant at Queens Cottage and Gabriel and Maurice Benedict de Worms at the Rothschild coffee estate in Pussællāva පුස්සැල්ලාව were amongst those who experimented with the growing tea plants in Ceylon in 1840 and 1841 respectively. By 1867, four hectares

232 Chrystal (2014: 82), Ellis, Coulton and Mauger (2015: 268–269).

233 Alicia Schrikker. 2007. *Dutch and British Colonial Intervention in Sri Lanka 1780–1815: Expansion and Reform*. Leiden: Brill.

of land in Ceylon were planted with tea, but no tea was yet exported at this time. It was in that year that the Scottish adventurer James Taylor, who had come to Ceylon at the age of sixteen in 1852, began in the capacity of superintendent to convert the Loolecondera coffee estate into a tea estate. The estate then comprised a plot of six hectares in the hills southeast of Kandy on the way to Nuvara Eliya, which at 1890 metres above sea level is an unimposing town at the heart of Ceylon's tea plantations region on a plateau of 2.5 km by 6.5 km.

The fortuitous timing of the task assigned to Taylor proved to be auspicious. Coffee in Ceylon was devastated by coffee rust in the 1870s. This blight, caused by the leaf fungus *Hemileia vastatrix*, is believed to have first spread from East Africa to Ceylon in 1869 after its first sighting in Kenya in 1861. Tea plantations were able to expand ferociously in the 1870s as aspiring tea planters snapped up the land of former coffee plantations. At this time, the prominent Dutch coffee planting family van Ingen left Ceylon to set up coffee plantations in Mysore and Kerala instead.[234] In 1872, James Taylor invented the first machine for rolling the tea, a process which had hitherto been performed manually. The first Ceylon tea was marketed in London in 1875. The shift from coffee to tea had direct demographic effects and worsened the ecological impact of plantations on the island.

The shift from seasonal coffee bean harvesting to all-year-round tea picking essentially converted the former seasonal migrant labourers on the coffee plantations, who originated from the Tamil country in southern India, into permanent 'tea plantation Tamils' in the central Ceylon hills. This economically disadvantaged group is distinct from the native Tamil population of northeastern Ceylon. Nuvara Eliya was afflicted by riots in 1983, but otherwise the plantation Tamils were less involved in the ethnic conflict which convulsed Sri Lanka from the 1970s to 2009. Plantation Tamils constitute over 60 % of the population in the tea region surrounding Nuvara Eliya. The native fauna and flora of Sri Lanka have long been ravaged by coffee, rubber and tea monocultures. The large-scale deforestation of Ceylon's primaeval highland jungles, started by coffee planters in the 1830s, was exacerbated by the tea planters in the 1870s, virtually obliterating this precious ecotype from the island's repertoire of ecosystems. By 1894, all the land that had formerly been planted with coffee was now planted with tea, including lands newly taken under tea cultivation, amounting to well over 130,000 hectares of cultivated land.[235]

A British colonial legacy in Ceylon and India involved the distinction between companies operating in sterling and those that operated in rupees, though there was no difference in principle between such companies in terms of their size or the amount of capital employed. In 1972, the socialist nationalist government of the Sri Lanka Freedom Party, under prime minister Mrs. Sirimavo Bandaranaike, began to expropriate tea and rubber plantations owned by Ceylonese entrepreneurs under the Land Reform law. In 1975, the sterling tea estates owned by British companies, who owned the lion's share of Ceylon's tea plantation, were also nationalised. The loss of private enterprise to the socialist government predictably led to mismanagement, nepotism, corruption and consequently plummeting standards. The tea industry was crippled for years, and Ceylon tea only began to regain its international reputation after private ownership and professional management were gradually restored in the 1980s.

For example, the formerly British owned Pedro tea estate on Mount Pedro, three kilometres east of Nuvara Eliya, was expropriated in 1975 and only reprivatised in 1985. The now famous Sri Lankan tea entrepreneur Merrill Joseph Fernando also lost everything to the rapacious authorities in the early 1970s, though today he has become one of the main

234 The van Ingen family history in Ceylon, the Cape and southern India was kindly shared with me by Michael van Ingen on The Land at Kyatharamaranahalli Road in Mysore in 2005.

235 Ludowyk (1966: 92).

proponents of Ceylon tea. His Dilmah group was a principal actor in rebuilding the devastated Ceylon tea industry. In the 1980s, Fernando introduced the first two tea-bagging machines into Sri Lanka against much opposition from both the Sri Lanka Tea Board and international players such as Brooke Bond. Fernando coined the brand name 'Dilmah' from the two first syllables of the proper names of his two sons Dilhan and Malik, and the final 'h' was added as an orthographic nicety in 1988.

Just as Lipton strove to cut out the middlemen in the tea trade, Fernando today has assailed the new middlemen of the Fairtrade certification agency, which he has criticised as a triumph of hype over substance. The branding of 'ethically sourced' tea, conceived by a Marxist priest in Latin America, appeals to the conscience of buyers. Producers pay a commission for the right to adorn their product with the Fairtrade logo, yet still relatively little of the revenue goes to tea pickers. By contrast, the Merrill Joseph Fernando Charitable Foundation, into which Fernando has ploughed a third of his personal wealth, reinvests a substantial percentage of tea earnings into health care, education, children's school dress and books for tea workers as well as donations to charitable initiatives internationally.

Until recently, high-grade Ceylon teas were hard to find in Sri Lanka itself because all of the finer grades were promptly sold at auction in Colombo and exported. Today most Sri Lankans still drink weak brown tea with little aroma, further diluted with milk. Tea planters have begun to take a newly found pride in their teas, and are now marketing unblended single estate teas, including some whole leaf green teas. Dilmah has, for example, produced fine green leaf tea at the Elpittiya garden. Nonetheless, in 2009, over 95% of the tea produced in Sri Lanka was still brown CTC tea. The grades follow the British nomenclature and abbreviations first developed for Darjeeling and Assam. One of the chief tasks of the Tea Research Institute of Sri Lanka at Talawakelle is the dissemination of new technologies to tea planters. New cultivars, including *yabukita* from Japan, have been introduced as well as attempts at practising the Far Eastern and Darjeeling ways of preparing high-grade green tea.[236]

The principal tea growing regions in Sri Lanka include the district of Kandy (මහනුවර or கண்டி), Nuvara Eliya (නුවරඑළිය or நுவரெலியா), Dimbula (දිඹුල), Pussællāva (පුස්සැල්ලාව), Uva (ඌව or ஊவா) and the Ruhuṇu (රුහුණු) region in the south. The tea gardens at Dimbula, Kandy, Pussællāva and Uva are at elevations from 800 to above 1,400 metres above sea level. The tea gardens around Nuvara Eliya are somewhat higher, with the town itself situated at an altitude of 1,868 metres, and the tea plantations in the Ruhuṇu region tend to be at somewhat lower elevations. Tea is grown on the ruddy yellow podzolic and darker crimson latosolic soils that are characteristic of the island. Ceylon tea is classed into three altitude categories: high-grown tea from above 1200 metres, low-grown tea from below 600 metres, and the intermediate category of mid-grown tea. Tea grows more slowly at higher altitudes and is more delicate in flavour.

There are numerous tea estates. The expansive Labookelie estate 20 km north of Nuvara Eliya is owned by the Macwood conglomerate, first established by William Macwood in 1841, which also owns vast palm and rubber plantations. Thomas Lipton also played a major role in the tea industry on the island, as told in the following section. Tea is sampled by tea tasters before being graded and sent to auction. Roughly 95% of the island's tea is exported, and once the Ceylon Tea Board used to certify teas as coming from Ceylon with its lion logo. Over four decades after the devastation caused by the socialist policy of expropriation, the Ceylon tea industry has managed to rebuild itself.

The new challenge facing Sri Lanka, with its limited surface area, is to increase revenue by moving from low and medium grade black teas into high grade and premium black teas. Mean-

236 M. Trixie K. Gunasekare. 2012. 'Tea plant (*Camellia sinensis*) breeding in Sri Lanka', pp. 125–176 in Chen, Apostolides and Chen (op.cit.).

FIGURE 9.31 In a piece of living theatre, a young virgin cuts tea with golden scissors on the tea plantation of Herman Guṇaratne හර්මන් ගුණරත්න at Handunugoḍa හන්දුනුගොඩ

while, some of the island's tea planters have gone beyond experimenting with green and aromatic semi-fermented teas and already begun to produce fine green teas. For example, a well made green loose leaf tea is manufactured in Sri Lanka for Alokozay, a Dubai based firm. Currently, however, the Alokozay package instructions misguidedly prescribe steeping this loose leaf Ceylon green tea in water at 100°C, which does not do this rather pleasant tea much good. Other Sri Lankan tea entrepreneurs have also in recent years branched into fine handcrafted leaf teas on a small scale.

In 2012, the Tea Exporters Association of Sri Lanka proposed to import tea from Kenya, Vietnam and Indonesia for blending and repackaging. Sri Lanka has traditionally not allowed the importation of tea for blending, but the Sri Lanka Tea Board was investigating the feasibility of this proposal due to the high price of labour on the Sri Lankan tea plantations. The pragmatists aim to increase overall revenue through importation and blending, whilst purists such as Merrill Joseph Fernando and Māliṅga Herman Guṇaratne මාලිංග හර්මන් ගුණරත්න defend the name of Ceylon tea and do not want the Sri Lankan image in the world of tea to be diluted. Gifted with theatrical flare, Guṇaratne has a few young virgin ladies cutting the tea with golden scissors on his plantation at Handunugoḍa හන්දුනුගොඩ in the southern province, as he believes was done in ancient China. It is perhaps doubtful that all of Guṇaratne's tea is harvested in this way, but at least they do so within sight of the tasting station open to visitors.

FIGURE 9.32 The freshly cut buds are collected in a white porcelain bowl at Handunugoḍa හන්දුනුගොඩ

Guṇaratne also authored two exciting memoirs recollecting the recent history of the Ceylonese tea industry.[237]

From 1960 to 1995, Sri Lankan annual tea output fluctuated around 200,000 tonnes, at times dipping down to below 180,000 tonnes. After market reforms liberalised the economy and enabled private enterprise to flourish, tea output began at once to rise. In 1996, tea output exceeded 250,000 tonnes, and tea output has increased steadily ever since, with annual output now in excess of 340,000 tonnes. Because private initiative has replaced government sloth, in addition to the old fully oxidised CTC teas Sri Lanka now produces ever more artisanal, green and fine leaf teas. In 2004, Ceylon tea was touted as the 'cleanest tea in the world with regard to pesticide residues' by the technical committee on tea of the International Standards Organisation.[238] Yet producing tea in Sri Lanka remains economically challenging. Disregarding the heirloom tea producing countries of China, Japan and Korea, the cost of tea production in 2007 was highest of all in Sri Lanka at $1.89/kg, and lowest in Indonesia at 58¢/kg.[239] Nonethe-

237 Herman Gunaratne. 2010 [1980]. *The Plantation Raj: A Lifetime in Tea* (2nd edition). Galle Fort: Sri Serendipity Publishing House; Herman Gunaratne. 2010. *The Suicide Club: A Virgin Tea Planter's Journey*. Galle Fort: Sri Serendipity Publishing House.

238 M.A. Wijeratne. 2004. 'Tea industry in Sri Lanka', *ICOS*, 2: 51–54.

239 Alice Kirambi. 2008. *Report on Small-Scale Tea Sector in Kenya*. Nairobi: Christian Partners Development Agency (p. 18). Based on the figures for 2007 and measured in U.S. dollars, the ranking for production costs in descending order for the remaining countries is as

less, Ceylon is the world's fourth largest tea producer after China, India and Kenya. The island's annual production is at least thrice the production of Japan.

Sir Thomas Lipton

The celebrated Thomas Johnstone Lipton was born on the 10th of May 1850 in Glasgow to a poor family that had fled the Irish famine. As a callow but curious fourteen-year old lad, he travelled to the United States.[240] In America, he picked tobacco in Virginia, laboured on a rice field in South Carolina, worked for a streetcar company operating mule-drawn trams in New Orleans and then did a stint on a farm in New Jersey before returning to New York to work as a grocery clerk. Having finally managed to accrue $500, he returned to Glasgow in 1869 at the age of nineteen, after having spent five years working in America. He began to work in his parents' tiny grocery on Crown Street and adopted his mother's maiden name Johnstone as his middle name.

In May 1871, he launched his own first grocery store at 101 Stobcross Street by having two scrubbed and well-fed pigs sporting large blue ribbons paraded through Glaswegian streets sporting placards which read 'I'm going to Lipton's, the best shop in town for Irish bacon'. By 1878 the original Stobcross Street grocery had been abandoned, and three new Lipton's groceries had opened in High Street, Paisley Street and Jamaica Street. By 1880, Lipton had established a chain of twenty shops. For Christmas 1881, he pulled a successful publicity stunt with two disk-shaped jumbo cheeses, each eleven feet in diameter and weighing 3,500 lb., which he had had manufactured in a New York dairy. He managed to sell off the cheese in pieces and repeated this marketing ploy annually. When he wrote a letter, proposing to offer such a cheese to queen Victoria for her Golden Jubilee in 1887, the offer was refused as inappropriate.

Lipton became a millionaire and managed to provide his parents a life of luxury in Johnstone villa at Cambuslang. Lipton first ventured into tea retailing in 1889, ostentatiously trumpeting his wares with a brass band and bagpipers. His old mother died at the age of eighty in October 1889, and his father died the following spring. In 1890, at the age of forty, Lipton found himself alone, even though his chain of grocery stores at this time counted around two hundred stores. At this juncture in his life, he chose a new path.

In May 1890, soon after the death of his father, Lipton embarked to Ceylon and Australia. On the island, he snapped up seven tea estates, including the plantation at Dambētænna දඹේතැන්න, which was to become his favourite, so that he soon owned 1,500 hectares of land and had 3,000 men working for him. At the time that Lipton muscled his way into the market, other Ceylon planters were James Taylor, Thwaites, Harrison and Leake. Perched on top of a cliff overlooking Dambētænna tea estate in the Haputalē හපුතලේ area is the scenic viewpoint called Lipton's Seat, offering panoramic views of the surrounding countryside as far as the sea on clear days. Thomas Lipton is said to have admired the view from this point.

He aimed to render tea accessible to all, introduced the sale of Ceylon tea in pre-packaged cartons with the slogan 'Direct from the Tea Gardens to the Teapot'. He set up a distribution network in America, Canada and Europe. In the summer of 1893, Lipton presented his Ceylon tea at his 'Ceylon Court' at the Chicago World's Fair, where he is said to have sold some astronomical number of packets of tea. Lipton also earned a fortune in the American pork industry and established the Thomas J. Lipton tea packing company at Hoboken, New Jersey. In 1895, he was awar-

follows: India at $1.63/kg, Kenya at $1.33/kg, Rwanda at $1.32/kg, Uganda at $1.20/kg, Tanzania at $1.16/kg, Malawi at $1.14/kg, Zimbabwe at $1.11/kg, and Vietnam at 81¢/kg.

240 d'Antonio has voiced the claim that Lipton was born in 1848 rather than in his accepted birth year (Michael d'Antonio. 2011. *A Full Cup: Sir Thomas Lipton's Extraordinary Life and His Quest for the America's Cup*. New York: Riverhead Books, p. 16).

FIGURE 9.33
Sir Thomas Johnstone Lipton, 1st baronet (1848–1931), standing on his yacht Shamrock III in 1910, published by Bain News Service, photo from 5×7 inch glass negative, Library of Congress Prints and Photographs Division, Washington

ded the status of purveyor to Her Majesty the Queen. Lipton had become a multimillionaire, and one of his numerous acts of philanthropy in 1897 assumed the guise of a grand banquet during queen Victoria's Diamond Jubilee for 40,000 of London's poor. He sponsored the event anonymously, evidently on the reasonable assumption that his anonymity would not be guarded for long.

Lipton became a close friend of the prince of Wales, the future king Edward VII. In 1898, Lipton joined the Royal Ulster Yacht Club after being blackballed at the prestigious Royal Yacht Squadron at Cowes on the Isle of Wight despite the influence exerted by his friend, the prince of Wales. Through the Royal Ulster Yacht Club at Bangor he vied for the America's Cup five times from 1898 to 1929, but never won the cup. His yachts were named *Shamrock I, II, III, IV* and *V*, and at his manor at Osidge he likewise named one of his favourite Sinhalese servants Shamrock. Lipton followed the races from the deck his other yacht, the *Érin*.

Because of the outbreak of the First World War in 1914, the *Shamrock IV* was put into a hangar upon arrival in New York, and Lipton returned to Britain with the *Érin*. Upon a suggestion of Constance Edwina Lewes, *née* Cornwallis-West, the duchess of Westminster, Lipton converted the *Érin* into a hospital ship, and sailed to Montenegro and Greece to provide medical relief under the auspices of

the Knights Hospitaller and the Red Cross. In 1916, as fighting intensified, the Royal Navy commandeered the *Érin* and rechristened her the *Aegusa*, and she was sunk by a U-boat soon after.

As a wealthy tea magnate, Lipton was a perennial challenger in the yachting race for the America's Cup during the interbellum years. After defending Britain for thirty years at the America's Cup, albeit in vain, he garnered much sympathy and fame, and in 1930 he was unanimously but belatedly elected member of the Royal Yacht Squadron. Upon receipt of their telegram at Osidge, Lipton is said to have sardonically asked his friend Brooke Heckstall-Smith whether he happened to know the address of the club to which Lipton had just been admitted.

Lipton never had a relationship with a woman. Instead, he had an intimate working relationship of over forty years with his first shop assistant William Love, whom the 22-year-old Lipton had met on Victoria Bridge in the summer of 1872. At the age of 16, Love became Lipton's right-hand man in business. Love lived with Lipton and Lipton's parents, first in Glasgow's West End and from 1877 in Johnstone villa at Cambuslang. From 1893, Lipton staffed his house at Osidge in north London with young Sinhalese men and led an ebullient but discrete life. Five years after Lipton's death, Love finally married at age seventy.

In March 1901, Thomas Lipton was made Knight commander of the Royal Victorian Order.[241] Lipton died on the 2nd of October 1931 at Osidge, having come down with an illness after a chilly ride in his automobile.[242] Lipton did not invent English style CTC brown tea, but his successful campaign boosted the demand for full-bodied 'black tea' in Europe and America, helping further to eclipse the delicate aromatic Chinese teas which had hitherto held sway. Lipton helped effectuate this dramatic change in consumer preference, which lingers on as a global legacy. However, Lipton tea had been sold in Britain chiefly through Lipton's own grocery stores, and two years before Lipton's death, during the stock market crash of 1929, the shares in Lipton suffered badly.

When newer supermarket chains overtook Lipton's grocery chain in popularity, the international Scottish brand was replaced in the British Isles by other early brands of Ceylon tea such as Typhoo and Brooke Bond's PG Tips. In 1930, the Dutch *Margarine Unie* merged with the British company Lever Brothers to form the Anglo-Dutch multinational conglomerate Unilever, headquartered in Rotterdam and London. After Lipton's death and after the Great Depression, in a series of separate transactions between 1938 and 1972, Lipton Tea was acquired by Unilever.

Iced Tea, Tea Bags and Orwellian Tea

Some writers claim that iced tea was first served at the 1893 Chicago World's Fair, which was inaugurated on the 21st of October 1892 as the Columbian Exposition to commemorate the onset of the European colonisation of the Americas four centuries earlier, but effectively ran from May to October 1893. Another robust myth purports that iced tea was invented by Richard Blechynden, commissioner of the India Tea Association, in 1904 at the St. Louis World Fair, where he had glasses of iced tea served in the heat of the summer.[243] Perhaps these two events helped to popularise iced tea. However, iced tea was already a well established drink in the United States before either of these World Fairs. Iced tea had already been innovated by some nameless individual before the American civil war (*gerebatur* 1861–1865).

The evidence for this is contained in a loquacious manual on *How To Live*, published in 1860, in which Solon Robinson wrote: 'Last summer we

241 *The London Gazette*, 8 March 1901, p. 1647.

242 Françoise de Maulde. 1990. *Sir Thomas Lipton*. Paris: Éditions Gallimard; d'Antonio (2011).

243 Gilles Brochard. 2005. 'Time for tea', pp. 57–148 in Anthony Burgess, ed., *The Book of Tea*. Paris (p. 133): Flammarion; Gautier (2006: 37); Griffiths (2011: 340–341).

got in the habit of taking the tea iced, and really thought it better than when hot'.[244] Yet long before the American civil war, tea ices had long been consumed in posh circles in England, as recorded by a London tea dealer in 1826.

> It was once the fashion in this country (in higher circles) to serve Tea ices, or rather Tea creams frozen; they should only be made of the finest Hyson without any admixture of Black. In hot crowded rooms they will be found extremely grateful and cooling.[245]

It may well be that the idea of drinking iced tea was innovated independently in America later, but the English fashion of serving tea ices at parties was in vogue during hot weather decades earlier and is rather likely to have furnished the original inspiration. Iced tea is therefore most likely to have been a British invention.

In America by the 1870s, recipes for iced tea were already appearing in American cook books. In 1877, because of the ice to be added to the tea, Estelle Woods Wilcox recommended first 'making it stronger and sweeter than usual'. Then she suggested: 'Iced tea may be prepared from either green or black alone, but it is considered an improvement to mix the two'.[246] In 1878, Marion Cabell Tyree included a recipe for iced tea, prepared by combining in a previously scalded teapot 'one quart of boiling water and two teaspoonfuls of green tea'. Hours later, after it has cooled down, the tea is poured into goblets filled with ice and each containing two teaspoonfuls of granulated sugar. Furthermore, Tyree opined that a 'squeeze of lemon will make this delicious and healthful, as it will correct the astringent tendency'.[247]

Iced tea spread around the world rapidly with the availability of refrigeration. Iced tea culture thrives in Thailand. In fact, lots of American cultural influence made itself felt during the Second Indochina War (*gerebatur* 1955–1975), when American soldiers frequented Bangkok during their five-day leaves, called R&R 'rest and recreation', taken twice a year. Thai *cha: yen* ชาเย็น 'iced tea' is prepared from strongly brewed black tea, immoderately sweetened with condensed milk and sugar and served chilled. The variation *cha: dam yen* ชาดำเย็น 'black iced tea' is made without milk, just sweetened, whereas *cha: má na:o* ชามะนาว 'iced lime tea' is made from black tea without milk but with a squeeze of lime. Naturally, variations on the theme are locally concocted, and Thai iced tea may therefore also be flavoured with tamarind, orange blossom, anise or some other ingredients. Sometimes red food colouring is added to give the drink an easily recognisable tint.

Tea bags were introduced at the beginning of the 20th century. Roberta C. Lawson and Mary McLaren filed patent No. 723,287 on the 26th of August 1901 for a cloth 'tea leaf holder' which was patented on the 24th of March 1903.[248] In shape the early cloth tea bags already looked quite similar to today's ubiquitous rectangular tea bags, usually made of paper fibre. By the 1930s, various types of tea bags were in use in the United States, ranging from gauze pouches in circular, square or sack shapes as well as cellophane bags, both circular and square. In 1930, William A. Hermanson, the founder of Technical Papers Corporation in Boston, reportedly invented the first heat-sealed paper fibre tea bags.

In 1935, Ukers reported that the English viewed the American innovation of the tea bag 'with mingled feelings of doubt and alarm',[249] but in England in that very same year Joseph Tetley and Co.

244 Robinson (1860: 157).

245 A Tea Dealer (1826: 88–89).

246 Estelle Woods Wilcox. 1877. *Tried and Approved Buckeye Cookery and Practical Housekeeping, Compiled from Original Recipes*. Minneapolis: Buckeye Publishing Company (p. 119).

247 Marion Cabell Tyree. 1878. *Housekeeping in Old Virginia*. Louisville, Kentucky: John P. Morton & Co. (p. 64).

248 Popular writers on tea often repeat the anecdote in Chow and Kramer (1990: 32) about Thomas Sullivan inadvertently inventing tea bags as samplers in New York in 1908, but tea bags were already being manufactured and sold at this time.

249 Ukers (1935, II: 443).

FIGURE 9.34
Thai *cha: dam yen* ชาดำเย็น ‘black iced tea’ may be flavoured with tamarind, orange blossom, anise or other ingredients. Often red food colouring is added to give the drink a dazzling hue. Optionally, condensed milk may be added
PHOTO COURTESY OF EAK Q อิคคิว, ALIAS SUTHANGKUL KABKHUM สุธางกูล กาบกุม IN CHI:ANG MÀI

first introduced the tea bag, and then from 1953 Tetley began to mass produce tea bags.[250] By 1970, still less than 10 % of British tea was brewed from tea in tea bags, but well over half of tea drunk in Britain was brewed from tea bags by 1985. In 2000, already over 90 % of tea drunk in the United Kingdom was brewed from tea bags,[251] so we can say that today most Britons drink tea brewed from tea bags and very few Britons drink tea brewed from fine leaf tea.

The famous English writer George Orwell, however, was decidedly against tea bags and said so in no uncertain terms in a famous essay entitled ‘A nice cup of tea’, which he wrote as the Saturday essay for the *Evening Standard* of the 12th of January 1946. This delightfully opinionated piece was written at a time when tea and other commodities in post-war Britain were still rationed, as tea had been in Britain during both the First and the Second World Wars. With reference to the eagerness with which British soldiers looked forward to their tea rations during the Second World War, Churchill is reputed to have said in 1942 that tea mattered more to the soldiers than ammunition.[252]

Orwell shows a clear preference for black leaf tea from India or Ceylon, which he drank brewed strong, with milk but without sugar. Boiling water, he opined, should be poured directly onto the fully oxidised black tea leaves. He argued that the milk

250 Andy Bloxham. 2008. ‘Tea bag to celebrate its century’, *The Telegraph*, 13 June 2008.
251 Moxham (2003: 202).
252 Burgess (2005: 16).

should be added to the tea rather than the other way around,[253] and that tea drinkers should take care to skim the cream off of the milk first, a recommendation which may puzzle young people today who have never seen natural milk and are only familiar with the homogenised milk available in supermarkets from dairy factories. His essay reads as follows.

> If you look up 'tea' in the first cookery book that comes to hand you will probably find that it is unmentioned; or at most you will find a few lines of sketchy instructions which give no ruling on several of the most important points.
>
> This is curious, not only because tea is one of the main stays of civilisation in this country, as well as in Eire, Australia and New Zealand, but because the best manner of making it is the subject of violent disputes.
>
> When I look through my own recipe for the perfect cup of tea, I find no fewer than eleven outstanding points. On perhaps two of them there would be pretty general agreement, but at least four others are acutely controversial. Here are my own eleven rules, every one of which I regard as golden:
>
> First of all, one should use Indian or Ceylonese tea. China tea has virtues which are not to be despised nowadays—it is economical, and one can drink it without milk—but there is not much stimulation in it. One does not feel wiser, braver or more optimistic after drinking it. Anyone who has used that comforting phrase 'a nice cup of tea' invariably means Indian tea.
>
> Secondly, tea should be made in small quantities—that is, in a teapot. Tea out of an urn is always tasteless, while army tea, made in a cauldron, tastes of grease and whitewash. The teapot should be made of china or earthenware. Silver or Britannia ware teapots produce inferior tea and enamel pots are worse; though curiously enough a pewter teapot (a rarity nowadays) is not so bad.
>
> Thirdly, the pot should be warmed beforehand. This is better done by placing it on the hob than by the usual method of swilling it out with hot water.
>
> Fourthly, the tea should be strong. For a pot holding a quart, if you are going to fill it nearly to the brim, six heaped teaspoons would be about right. In a time of rationing, this is not an idea that can be realised on every day of the week, but I maintain that one strong cup of tea is better than twenty weak ones. All true tea lovers not only like their tea strong, but like it a little stronger with each year that passes—a fact which is recognised in the extra ration issued to old-age pensioners.
>
> Fifthly, the tea should be put straight into the pot. No strainers, muslin bags or other devices to imprison the tea. In some countries teapots are fitted with little dangling baskets under the spout to catch the stray leaves, which are supposed to be harmful. Actually one can swallow tea-leaves in considerable quantities without ill effect, and if the tea is not loose in the pot it never infuses properly.
>
> Sixthly, one should take the teapot to the kettle and not the other way about. The water should be actually boiling at the moment of impact, which means that one should keep it on the flame while one pours. Some people add that one should only use water that has been freshly brought to the boil, but I have never noticed that it makes any difference.
>
> Seventhly, after making the tea, one should stir it, or better, give the pot a good shake, afterwards allowing the leaves to settle. Eighthly, one should drink out of a good breakfast cup—that is, the cylindrical type of cup, not the flat, shallow type. The breakfast cup holds more, and with the other kind one's tea is always half cold before one has well started on it.

253 In England, some entertain the rare and decidedly quaint superstition that sugar should also be added before the milk in order not to precipitate misadventures in love.

Ninthly, one should pour the cream off the milk before using it for tea. Milk that is too creamy always gives tea a sickly taste.

Tenthly, one should pour tea into the cup first. This is one of the most controversial points of all; indeed in every family in Britain there are probably two schools of thought on the subject. The milk-first school can bring forward some fairly strong arguments, but I maintain that my own argument is unanswerable. This is that, by putting the tea in first and stirring as one pours, one can exactly regulate the amount of milk whereas one is liable to put in too much milk if one does it the other way round.

Lastly, tea—unless one is drinking it in the Russian style—should be drunk without sugar. I know very well that I am in a minority here. But still, how can you call yourself a true tea-lover if you destroy the flavour of your tea by putting sugar in it? It would be equally reasonable to put in pepper or salt. Tea is meant to be bitter, just as beer is meant to be bitter. If you sweeten it, you are no longer tasting the tea, you are merely tasting the sugar; you could make a very similar drink by dissolving sugar in plain hot water.

Some people would answer that they don't like tea in itself, that they only drink it in order to be warmed and stimulated, and they need sugar to take the taste away. To those misguided people I would say: Try drinking tea without sugar for, say, a fortnight and it is very unlikely that you will ever want to ruin your tea by sweetening it again.

These are not the only controversial points to arise in connexion with tea drinking, but they are sufficient to show how subtilised the whole business has become.

There is also the mysterious social etiquette surrounding the teapot (why is it considered vulgar to drink out of your saucer, for instance?) and much might be written about the subsidiary uses of tea leaves, such as telling fortunes, predicting the arrival of visitors, feeding rabbits, healing burns and sweeping the carpet.

It is worth paying attention to such details as warming the pot and using water that is really boiling, so as to make quite sure of wringing out of one's ration the twenty good, strong cups of that two ounces, properly handled, ought to represent.

For many tea lovers, tea bags still carry a bad reputation because most tea bags contain CTC tea of low quality. Some connoisseurs can taste the paper fibre in the infusion as well. Today, some tea producers produce tea bags containing teas of a higher quality that comes in bags that are purported to be made of silk. In reality, this 'silk' is usually some type of natural or synthetic gauze. The fancier tea bags come in a variety of shapes. Although the newer gauze tea bags look like a new development to consumers who have grown up accustomed to paper fibre tea bags, these fancy newer tea bags in fact closely resemble the earliest tea bags of the 1920s, and some producers of better teas have already been using such bags for decades, such as the fine tea company Sirocco in Switzerland, originally founded in 1908 as a coffee roastery by Alfons Kuster in Schmerikon on Lake Zürich, or the Parisian tea company Betjeman & Barton, originally founded in 1919 as the English Tea House.

The tenth point raised by Orwell remains a topic of serious controversy in Britain today. In 2003, Brian Emsley, the media relations manager of the Royal Society of Chemistry at Burlington House in Piccadilly, issued a news release announcing that Andrew Stapley, a chemical engineer at Loughborough University, had established that the milk should go into the cup first. The tea, Stapley contended, should be poured on top of the milk because, otherwise, pouring milk into hot tea above 75°C would denature the milk proteins, which would consequently make the tea taste bad.

For the same reason, Stapley's research found that UHT milk should be avoided, for milk that had been subjected to 'ultra-high-temperature processing' or 'ultra-heat treatment' already con-

FIGURE 9.35
Doris Day singing 'Tea for two', a still from the 1950 footage

tained denatured milk proteins.[254] This cutting-edge research proudly touted by the Royal Society of Chemistry somehow neglected to address what happened if the tea poured on top of a thin layer of milk at the bottom of a tea cup happened itself to be scalding, as an infusion of English black tea often is. Since the investigators had overlooked such empirical imponderabilia, Orwell's argument in his tenth point presumably continues to remain unanswerable.

Tea continues to inspire artistic expression in Western culture. In America, tea was associated with both health and inspiration in 1876 by the poet Ralph Waldo Emerson.

> Health is the first muse, comprising the magical benefits of the air, landscape and bodily exercise on the mind ... So of all the particulars of health and exercise, and fit nutriment, and tonics. Some people will tell you there is a great deal of poetry and fine sentiment in a chest of tea.[255]

The famous song 'Tea for two' is originally from the 1925 musical *No, No, Nanette*, with a melody composed by Vincent Millie Youmans and lyrics written by Irving Caesar, alias Isidor Keiser.

> Picture you upon my knee,
> Just tea for two and two for tea,
> Just me for you and you for me, alone!
> Nobody near us to see us or hear us,
> No friends or relations on weekend vacations.
> We won't have it known, dear, that we own a
> telephone, dear ...

254 Brian Emsley. 2003. *News Release: How to make a Perfect Cup of Tea*. London: Royal Society of Chemistry; Maev Kennedy. 2003. 'How to make a perfect cuppa: put milk in first', *The Guardian*, 25 June 2003.

255 Ralph Waldo Emerson. 1876. *Letters and Social Aims (New and Revised Edition)*. Boston: James R. Osgood and Company (pp. 227–228).

Day will break and I'll wake, and start to bake a sugar cake
For you to take for all the boys to see
We'll raise a family, a boy for you, and a girl for me.
Can't you see how happy we would be …

Later renditions of the song were most memorably performed by Doris Day in 1950, an instrumental version by Yehudi Menuhin and Stéphane Grappelli in 1978 and a relatively recent rendition by Pink Martini in 2007. In 1935, the British musical *Come Out of the Pantry* featured a song 'Everything stops for tea', written by Al Hoffman, Al Goodhart and Maurice Sigler. Two of its eight stanzas are quoted below.

Every nation in creation has its favourite drink
France is famous for its wine, it's beer in Germany
Turkey has its coffee and they serve it blacker than ink
Russians go for vodka and England loves its tea

It's a very good English custom
And a stimulant for the brain
When you feel a little weary, a cup'll make you cheery
And it's cheaper than champagne

In 1939, an American children's song was written by Clarence Kelley and George Harold Sanders, the refrain of which begins with the words 'I'm a little teapot short and stout'. Both the melody and the lyrics of this 'teapot song' are inane, but eerily the words seem to remind one of lines in Pope's *Rape of the Lock*.

Unnumber'd Throngs on ev'ry fide are feen
Of Bodies chang'd to various Forms of *Spleen*.
Here living *Teapots* ftand, one Arm held out,
One bent; the Handle this, and that the Spout[256]

256 Pope (1714, p. 36, Canto IV, ll. 47–50).

A melancholy song entitled 'Tea for one' was written and recorded by the British group Led Zeppelin in 1976 about the loneliness and homesickness that the British musicians felt when on tour in North America.

Germany and Denmark

In 1685, Dufour observed that tea was almost unknown in Germany, where people were reluctant to try out new things. In the course of the 18th century, the Germans took to tea, however. In 1804, writing from the Batavian Republic on the economy of tea, Gysbregt van Hogendorp observed that tea in Europe was consumed primarily in England, the Netherlands, Denmark and northern Germany.[257] Nineteen years later, in 1823 in his *Lyrisches Intermezzo*, Heinrich Heine wrote:

Sie ſaßen und tranken am Theetiſch,
Und ſprachen von Liebe viel.
Die Herren die waren äſthetiſch,
Die Damen von zartem Gefühl.[258]

They sat and drank at the tea table,
and spoke a lot about love.
The gentlemen were aesthetic,
and the ladies of tender sentiments.

Although northern Germany was a major European market of tea drinkers in the 19th century, the country only belatedly assumed a global significance in the tea trade. After the curtailment of the British East India Company monopoly on the tea trade, the first free tea auction was held in London on the 10th of January 1839. On the 27th of December 1861, the first tea auction was held in Calcutta, and in Colombo the first tea auction was held on the 30th of July 1883. Then after the Second World War, the first tea auctions were held

257 van Hogendorp (1804: 32).
258 Heinrich Heine. 1823. Tragödien nebſt einem lyriſchen Intermezzo. Berlin: Bei Ferdinand Dümmler (S. 111).

FIGURE 9.36
The permutation on the 1960s American anti-war slogan 'make love, not war', contained in the graffito, was first implicit in Monty Python's 1969 sketch *Hell's Grannies*, when a gang of delinquent grannies spray paint 'Make tea not love' on a wall. The saying is usually attributed to Graham Chapman and is also implicit in the 1978 film *The Rutles: All You Need Is Cash*, which lampooned the Beatles. This stencil was discovered and posted on Pinterest by Murat Doğan.

in Cochin in 1947, Chittagong in 1949, Nairobi in 1956, Coonoor in the Nilgiri hills in 1963, Mombasa in 1979, Limbe in Cameroun and Gauhati in Assam in 1970, Jakarta in 1972, Siliguri in 1976, Coimbatore in 1980 and Singapore in 1981. Tea auctions were revived after the Second World War at Amsterdam, historically the first European tea auction city, and these continued until 1958. From the following year, Rotterdam and Antwerp became more important centres, and a year later in October 1960 a tea auction was held in Hamburg.[259]

The belated German début on the world tea market is very much a consequence of the *Wirtschaftswunder*. After two world wars, Germany was split into two countries in 1949, the German Democratic Republic with a one-party dictatorship in the east and a free market oriented Federal Republic of Germany in the west. In 1952, the German tea trade was stimulated by the *Gesellschaft für Teewerbung*, at a time when West Germany was importing just 3,725 tonnes annually. By 1982, the volume of imported tea had reached 17,603 tonnes.[260] In 1990, the economically backward communist state of East Germany was dissolved and reunited with the West. Now in the reunited Germany, the *Deutscher Teeverband* or German Tea Association plays a prominent role, and the association hosted an international conference on tea in Hamburg in 2005.

Today much of the tea in Europe is distributed through importers in Hamburg, whose large tea dealers include Dethlefsen & Balk, Gebrüder Wollenhaupt, J.T. Ronnefeldt KG, Teekanne, Hamburger Teehandel, Hälssen & Lyon, Tea Goetz, Sinass Teehandel, Teehandelskontor Sturm, Mount Everest Tea Company, Kloth & Köhnken Teehandel, alveus, Oasis Teehandel and many others companies trading in over one billion euros worth of tea annually. The teas are processed in and around Hamburg, and many companies have since the 1970s specialised in flavouring the teas and reexporting them. The German tea trading company Hälssen & Lyon began as a family-run business in 1879 and now trades specialty teas from a warehouse in Hamburg-Allermöhe with a capacity of over 15,000 tonnes. Such German distributors export processed tea which then ends up everywhere in the world. Even as far away as northern Thailand in the primordial tea heartland, teas that were remixed in Hamburg show up in some shops instead of fine artisanal local teas or high-quality locally produced oolong.

The botanical investigations of Dr. Wallich at the Calcutta Botanic Garden were of tantamount importance to the establishment of tea cultivation in India and to other dominions of the British empire. The three successive Danish East India Companies conducted tea trade at various times between 1616 and 1843. Danish traders not only smuggled tea into England but also brought tea to Denmark. Like the Swedes, the Danes were one of the European tea trading nations represented at Canton in 1732. The tea shop A.C. Perch's Thehandel on the Kronprinsensgade in Copenhagen boasts that this shop, which opened on the 16th of April in 1835, is the oldest existing tea shop in Europe. The initials stand for Axel Christian because Niels Brock Perch, who opened the shop on the Kronprinsensgade in 1835, named it after his son.

259 Forrest (1985: 108, 138–139).
260 Forrest (1985: 143).

Making brisk sales in Danish supermarkets, Chaplon Tea aims to stimulate *bæredygtig produktion* 'sustainable production' in Sri Lankan tea gardens and sports as its company logo the Sinhalese word *te* තේ 'tea', written black on white in Sinhalese script, albeit in a rather rustic looking font, and surrounded by a rust coloured oval border. They sell their tea in attractive metallic canisters which serve as tea caddies. This Danish brand also aims to produce white and green teas, but virtually all of their teas are strongly flavoured with natural additives ranging from rose petals to quince, so that they cater to that segment of the Danish market which is not yet accustomed to the taste of pure green tea.

At the same time, at the more exquisite end of the aesthetic spectrum, some of the Danish art scene finds much inspiration in Japanese art, particularly ceramic and culinary. There is a growing number of Japanese green tea aficionados in Denmark. Modern Danish *haute cuisine* emulates elements of Japanese gastronomy, and Danish ceramicists, such as Hans Vangsø Iversen and Tommy Lindgren on the island of Bornholm, produce ceramic pieces such as *chawan* in the *rakuyaki* 楽焼 style.

CHAPTER 10

Tea Terroir and Tea Cuisine

Terroir, Microbiome and Epigenetic Effects

Our tale has taken us from the origins of tea to the dissemination of this beverage to all the corners of the globe. Tea has now reached remote islands, quite unexpected places and, finally, countries that are now major players in the tea industry but which did not play any role in the early days of tea. Tea began as a comestible, and with the emergence of modern tea cuisine the plant has come full circle. Today, the cultivation of live tea plants has even reached Holland, four whole centuries after the first specimens of powder tea and leaf tea from Japan were unloaded in the port of Amsterdam in 1610.

Terroir is just as important to the character of a tea as it is to wine. Jonas Hanway was correct to surmise in 1756 that:

> The diftinction of the taftes of tea, arifes, in fome meafure, from the feafons, and alfo from the foil in which it grows.[1]

Naturally occurring minerals in the soil in which tea is grown find their way into the teacup. In order of decreasing concentration, the most prevalent minerals floating about dissolved in a typical cup of tea are calcium, magnesium, manganese, iron, zinc and copper.

It has been found that the greater the amount of copper in the soil, the better the colour of the green tea. Alongside copper, both magnesium and manganese play a role in ensuring and retaining good colour. The zinc content in the soil appears to have no pronounced chromatic effect one way or the other, whereas high concentrations of calcium and especially of iron appear to detract from a wholesome green tea colour.[2] In addition to the chlorophyll A and B in tea, some of the green colour is composed of vitexin and isovitexin.[3] Tea is also known to absorb trace amounts of aluminium from the soil, and some soils are obviously richer in aluminium than others.

Therefore, a relationship obtains between the natural hue of a green tea and the mineral content in the soil in which it grows, and this chromatic relationship is easier to quantify and more amenable to study than the flavour and fragrance of the tea. Yet it is a matter of experience on the part of numerous tea aficionados that terroir is an important determinant of taste. In vindication of Hanway, there are also measurable seasonal differences in the chemical composition of the aromatic substances in tea.[4] Terroir appears to be as much a function of the bacteria and other microbes making up the local soil microbiome as of the composition of the soil itself. This holds true for wine and no doubt affects the character of teas as well,[5] but the effects of the local microbiome on tea have not been as systematically studied.[6] Similarly, aro-

1 Hanway (1756: 204–205).

2 Zhengli Gong, Jingqiang Zhang and Heling Wu. 2001. 'Studies on the relationship between six metal elements and green tea colour', ICOS, 1 (11): 305–308.

3 U.H. Engelhardt, A. Finger and S. Kuhr. 1993. 'Determination of flavone C-glycosides in tea', *Zeitschrift für Lebensmittel-Untersuchung und -Forschung*, 197 (3): 239–244.

4 Susanne Baldermann, Naoharu Watanabe and Peter Fleischmann. 2007. 'Seasonal variations in carotenoid cleavage enzymes', ICOS, 3, PR-P-117.

5 Iratxe Zarraonaindia, Sarah M. Owens, Pamela Weisenhorn, Kristin West, Jarrad Hampton-Marcell, Simon Lax, Nicholas A. Bokulich, David A. Mills, Gilles Martin, Safiyh Taghavi, Daniel van der Lelie and Jack A. Gilbert. 2015. 'The soil microbiome influences grapevine-associated microbiota', *mBio* (i.e. *Journal of the American Association for Microbiology*), 6 (2): e02527-14.

6 Scientists around the globe, such as the experts regularly convening through the Intergovernmental Science Policy

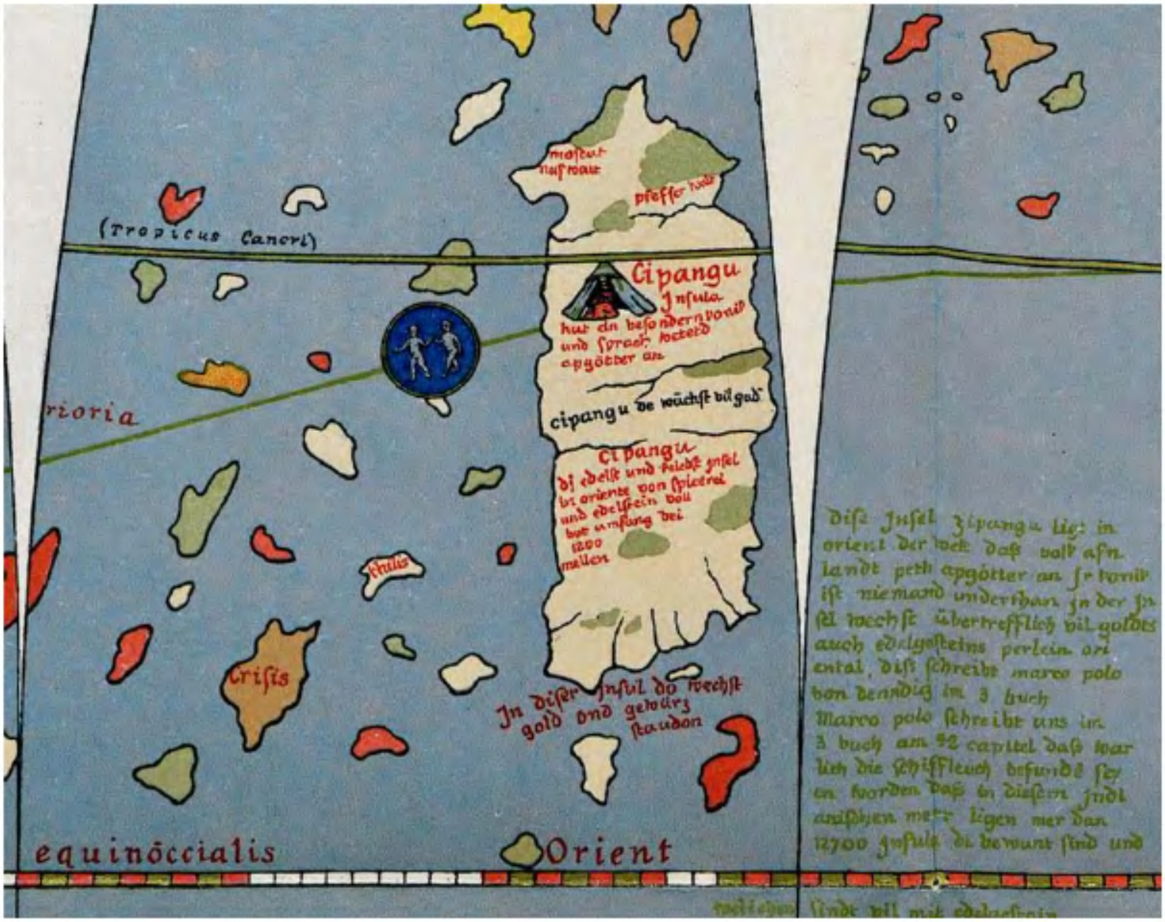

FIGURE 10.1 Two adjacent portions of unfurled slices of the first globe or *Erdapfel* 'earth apple' made by Martin Behaim at Nürnberg in 1492, showing *Cipangu infula* 'the island of Japan' beyond Asia in the northern Pacific

matic differences can evidently also ensue as epigenetic effects induced by the terroir, involving the addition or removal of chemical tags known as methyl groups.[7]

In the wake of European colonial expansion, tea has spread across the globe. It would be a century after the death of Henry the Navigator in 1460 before Portuguese Jesuits in Japan and China in the 1560s began to record their first observations of tea. A century and a half after Henry the Navigator's death, the Dutch would bring the first tea on the ship *Roode Leeuw met Pijlen* from Hirado 平戸 to Amsterdam in 1610. Nobody would have been able to foretell at this time how this one Asian cultigen would influence world history and the prominent role that this plant would play in the course of events.

Platform on Biodiversity and Ecosystem Services (IPBES), have long stressed the danger of soil degradation leading to a reduction of the biodiversity in the microbiome dwelling within the soil (Florence Panoussian. 2018. 'Alerte sur la dégradation des sols et son impact sur les humains', *Le Devoir*, 25 mars 2018).

7 Huahan Xie, Moumouni Konate, Na Sai, Kiflu G. Tesfamicael, Timothy Cavagnaro, Matthew Gilliham, James Breen, Andrew Metcalfe, John R. Stephen, Roberta De Bei, Cassandra Collins and Carlos M.R. Lopez. 2017. 'Global DNA methylation patterns can play a role in defining terroir in grapevine (*Vitis vinifera* cv. Shiraz)', *Frontiers in Plant Science*, 8: 1860.

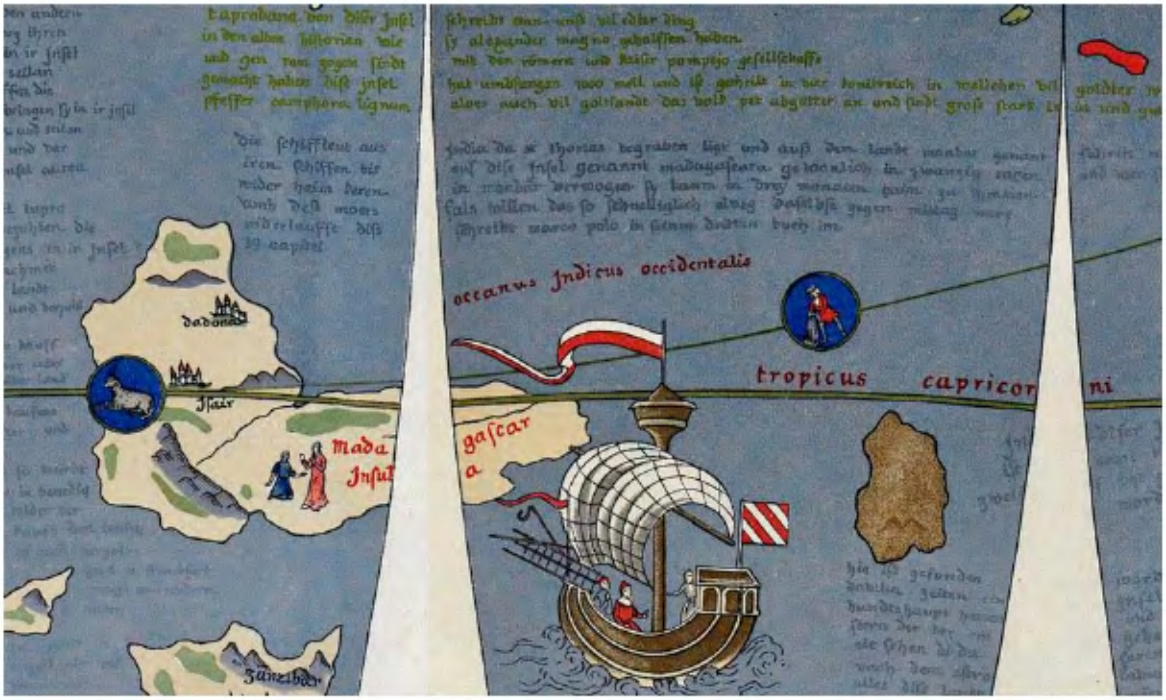

FIGURE 10.2 Adjacent portions of unfurled slices of the *Erdapfel*, showing *Madagafcar infula* 'the island of Madagascar' and the *oceanus Indicus occidentalis* 'western Indian ocean', roughly bisected by the *Tropicus capricorni* 'Tropic of Capricorn'.

Madagascar, the Mascarenes and the Seychelles

In the year 1500, Diogo Dias, the brother of Bartolomeu Dias, made landfall on Madgascar on the 10th of August, the feast day of St. Lawrence. Accordingly, he christened Madagascar as *a ilha de São Lourenço* 'the island of St. Lawrence'. Unbeknownst to Diogo Dias, the island already had a European name although no European had ever visited the island before him.

From 1484 to about 1490, the peripatetic German adventurer Martin Behaim, known in Portuguese as *Martinho da Boémia* 'Martin of Bohemia', served in Portugal under João II (*regnabat* 1481–1495), during which time he had sailed with Diogo Cão as far south as Namibia. After his return to Nürnberg, Behaim made the first globe or *Erdapfel* 'earth apple' at the behest of the city council in 1492. The globe was based both on older literary sources and on Portuguese intelligence gathered on earlier voyages. The globe shows no land masses in the western hemisphere, nor does it show Australia, but beyond Asia in the northern Pacific lay *Cipangu infula* 'the island of Japan' and in the western Indian Ocean (*oceanus Indicus occidentalis*), roughly bisected by the *Tropicus capricorni* 'Tropic of Capricorn' lay *Madagafcar infula* 'the island of Madagascar'.

For both islands, Behaim evidently drew on the writings of Marco Polo. Madagascar was described by Marco Polo as an island a thousand miles south of Socotra, about four thousand miles in circumference, with many elephants, much ivory and numerous camels. Although his account evidently blended gleanings about the East African coast with those of Madagascar, Marco Polo recorded that *Elle eft noble ifle, et belle, et des greigneurs du monde* 'she is a noble island, and beautiful, and one of the largest islands in the world'. The island of *Zanguibar* 'Zanzibar' is also mentioned several times as lying on the route to Madagascar.

The toponym Madagascar itself is written in such a way that some have read the handwriting

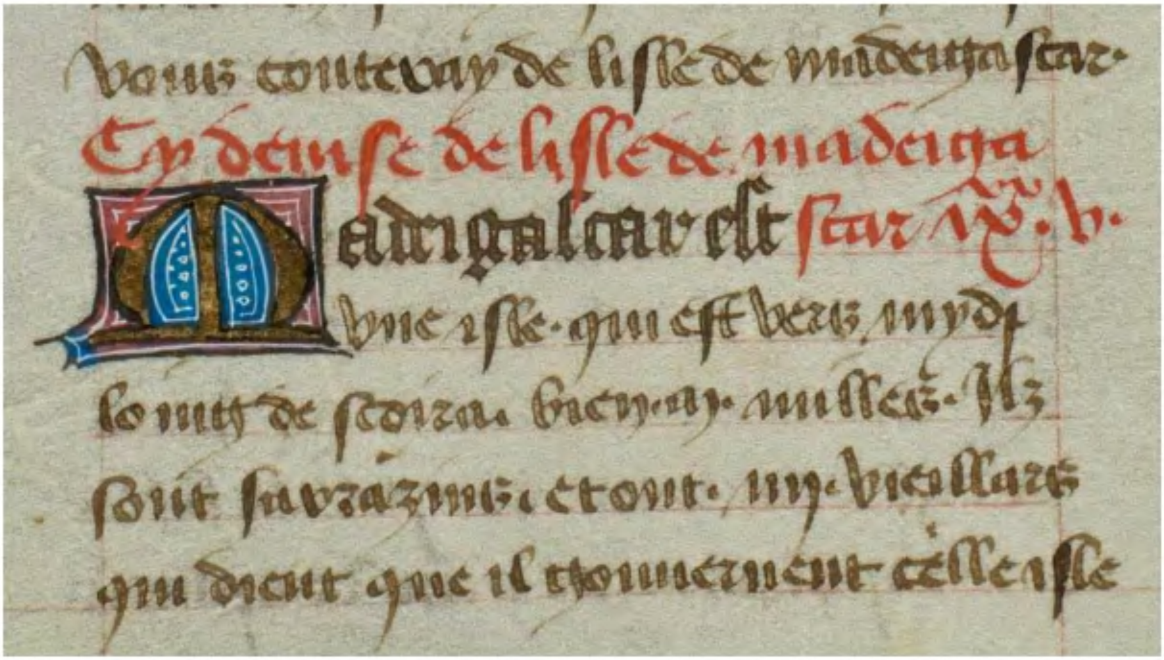

FIGURE 10.3 The name of Madagascar as it appears in the manuscript of Marco Polo, Burgerbibliothek Bern, Sammlung Bongarsiana Codices, Codex 125: Marco Polo, detail from f. 90^{r}
COURTESY OF CODICES ELECTRONICI AG ⟨WWW.E-CODICES.CH⟩

as 'Madeigascar', others as 'Madagascar'. The two instances of the toponym in the text each resemble optical illusions consisting of ambiguous images or reversible figures in that the word appears to a reader sometimes as 'Madeigascar', sometimes as 'Madagascar'.[8] Upon closer inspection, presumably some readers would perhaps settle on 'Madeigascar', but historically many have evidently read 'Madagascar', for the name appears as 'Madagascar' both on Behaim's *Erdapfel* of 1492 as well as in the famous *Planisfério de Cantino*, drawn in 1502, two years after Dias first made landfall on the island of St. Lawrence.

This magnificent map was commissioned and drawn in Lisbon, where it was then purloined by Alberto Cantino, who smuggled the map to Italy for the duke of Ferrara. Today this 102 × 218 cm map is kept in the Biblioteca Estense in Modena. The *Planisfério de Cantino* already shows much of the North and South American coast and many islands of the Caribbean and also depicts the contours of Africa with great accuracy. The label *Madagascar* appears written vertically on the island, which straddles the Tropic of Capricorn. The Mozambique Channel is labelled *Mare Prasodu*. In time, Marco Polo's fantasy name 'Madeigascar' or 'Madagascar' would replace Diogo Dias' name of *São Lourenço*. However, the island of St. Lawrence was inhabited long before Dias landed there, by the Malagasy people themselves.

Frederick de Houtman of Gouda, who at the time had already undertaken his first two voyages to the East Indies, lasting from 1595 to 1597 and from 1598 to 1602, observed that the Malagasy language was related to Malay, which he had learnt in the Indonesian archipelago. In fact, as de Houtman recorded, the observation of linguistic relationship between Malagasy and Malay was actually first made by his Malagasy cabin boy …

8 Burgerbibliothek Bern, Sammlung Bongarsiana Codices, Codex 125: Marco Polo, Jean de Mandeville, Pordenone, Pergament I + 287 Bl., 32.5 × 23.5 cm, 1401–1450 (ff. 90^{r}, 90^{v}, 91^{r}); cf. discussion in Pelliot (1963, Vol. II, pp. 779–781).

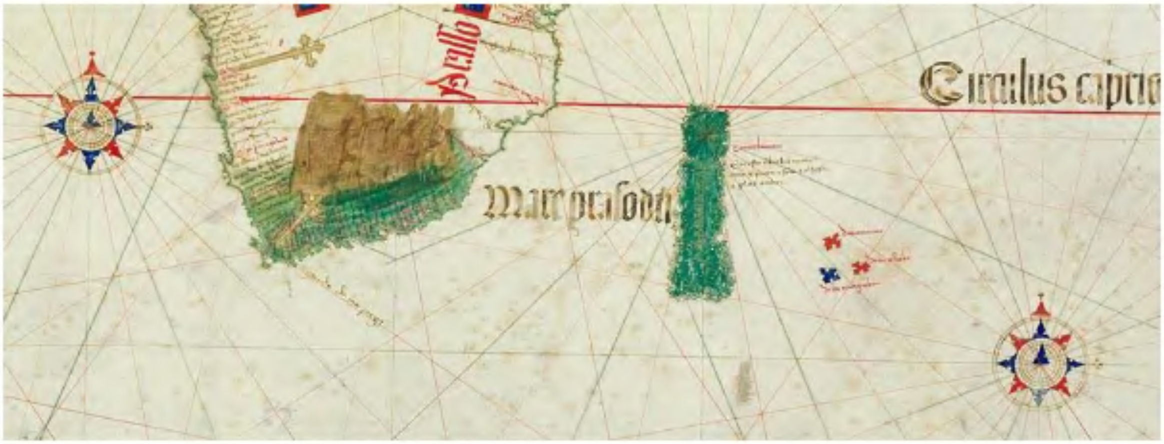

FIGURE 10.4 Madagascar and the Mascarenes as shown in a detail of the *Planisfério de Cantino*, drawn in 1502, two years after Dias first made landfall on the island of St. Lawrence.

> die alreede goedt Duyts fprac: alfoo hy vvel vier Iaeren met onfe Duytfche Natie ghevaren hadde[9]
>
> who already spoke good Dutch, as he had sailed the seas with our Dutch nation for four years

Linguistic evidence shows that Malagasy belongs to the same Malayo-Polynesian subgroup as the Maanyan language of the Barito river area in southern Borneo,[10] and it has been proposed that the linguistic ancestors of the Malagasy arrived in Madagascar by 400 AD,[11] if not earlier.

The relatively abrupt extinction of numerous species of endemic megafauna in the fossil record, including elephant birds, giant lemurs, giant tortoises and hippopotami, appears to implicate the presence of humans perhaps as early as 2,500 years ago, although at a time depth of 1,500 years ago the evidence for early human settlement becomes more compelling.[12] Some rather ambiguous archaeological findings have been adduced by those desirous of pushing the presence of humans on Madagascar further back into the past.[13] Lin-

9 Frederick de Houtman. 1603. *Spraeck ende woord-boeck, Inde Maleyfche ende Madagafkarfche Talen, met vele Arabifche ende Turcfche Woorden: Inhoudende twaelf tfamenfprekinghen inde Maleyfche ende drie inde Madagafkarfche fpraken, met alderhande woorden ende namen, gheftelt naer ordre vanden A.B.C. alles int Nederduytfch verduytft.* Amsterdam: Jan Evertfz. Cloppenburch (blz. v).

10 Otto Christian Dahl. 1951. *Malgache et maanyan: une comparaison linquistique* (*Avhandlinger utgitt av Instituttet, 3*). Oslo: Egede Instituttet.

11 Robert E. Dewar. 1984. 'Extinctions in Madagascar: The loss of the subfossil fauna', pp. 574–593 in Paul S. Martin and Richard G. Klein, eds., *Quaternary Extinctions: A Prehistoric Revolution*. Tucson: University of Arizona Press; Robert E. Dewar. 1996. 'The archaeology of the early settlement of Madagascar', pp. 471–486 in Julian Reade, ed., *The Indian Ocean in Antiquity*. London: Kegan Paul International; Adelaar, Karl Alexander ('Sander'). 1996. 'Malagasy culture-history: Some linguistic evidence', pp. 487–500 in Julian Reade, ed., *The Indian Ocean in Antiquity*. London: Kegan Paul International.

12 Brooke E. Crowley. 2010. 'A refined chronology of prehistoric Madagascar and the demise of the megafauna', *Quaternary Science Reviews*, 29 (19–20): 2591–2603; Malika Virah-Sawmy, Katherine J. Willis and Lindsey Gillson. 2010. 'Evidence for drought and forest declines during the recent megafaunal extinctions in Madagascar', *Journal of Biogeography*, 37 (3): 506–519.

13 D. Gommery, B. Ramanivosoa, M. Faure, C. Guérin, P. Kerloc'h, F. Sénégas and H. Randrianantenaina. 2011. 'Oldest evidence of human activities in Madagascar on subfossil hippopotamus bones from Anjohibe (Mahajanga Province)—Les plus anciennes traces d'activités anthropiques de Madagascar sur des ossements d'hippopotames subfossiles d'Anjohibe (Province de Mahajanga)', *Comptes Rendus Palevol*, 10 (4): 271–278; Robert E. Dewar, Chantal Radimilahy, Henry T. Wright,

FIGURE 10.5
Frederik de Houtman (1571–1627), painted between 1610 and 1620 by an anonymous painter, Rijksmuseum, Amsterdam

guistically, the Malagasy people are speakers of an Austronesian language, but a portion of their biological ancestry is also of African extraction.[14]

In 1643, Jacques de Pronis and Étienne de Flacourt of the French East India Company established the colony of Fort Dauphin, which lay on the waterfront of the present-day city of Tôlanaro. In August 1674, the Malagasy launched a surprise attack and massacred the inhabitants of Fort Dauphin, putting an end to the French presence there.[15] Over two centuries later, in 1883, France

Zenobia Jacobs, Gwendolyn O. Kelly and Francesco Berna. 2013. 'Stone tools and foraging in northern Madagascar challenge Holocene extinction models', *Proceedings of the National Academy of Sciences*, 110 (31): 12583–12588.

14 Matthew E. Hurles, Bryan C. Sykes, Mark A. Jobling and Peter Forster. 2005. 'The dual origin of the Malagasy in Island Southeast Asia and East Africa: Evidence from maternal and paternal lineages', *American Journal of Human Genetics*, 76 (5): 894–901; Sergio Tofanelli, Stefania Bertoncini, Loredana Castrì, Donata Luiselli, Francesc Calafell, Giuseppe Donati and Giorgio Paoli. 2009. 'On the origins and admixture of Malagasy: New evidence from high-resolution analyses of paternal and maternal lineages', *Molecular Biology and Evolution*, 26 (9): 2109–2124.

15 Gabriel Gravier. 1896. *La cartographie de Madagascar*. Paris: Augustin Challamel (pp. 125–162).

invaded Madgascar, but it took until 1887 before the island was completely subdued. In 1958, after more than seven decades of French rule, the Malagasy Republic was proclaimed as an autonomous state within the *Communauté française*, and in 1960 full Malagasy independence was regained. In the 1970s, tea seeds from Kenya were planted near Lake Sahambavy, about 45 km east of Fianarantsoa. By the mid 1980s, Madagascar had 200 hectares of tea gardens.[16] Subsequently, Chinese and Indian varietals were introduced, but most tea produced is black tea, and 80 % of Madagascar tea is exported to Kenya.

In the Indian Ocean to the east of Madgascar lie the *ilhas Mascarenhas* 'Mascarene Islands'. The Mascarenes appear on the *Planisfério de Cantino* of 1502, although they were not recorded by Diogo Dias, who was the only mariner known to have sailed to the east of Madagascar before this date. On this map, Réunion is labelled *diba Margabim*. In addition, depending on how one interprets the map, either Tromelin is labelled *diua Morare* and Mauritius *diua aRobi*, or Mauritius is labelled *diua Morare* and Rodrigues *diua aRobi*. The terms *diba* and *diua* are apparently Indic words for 'island'. Since the map was produced before Portuguese mariners had explored the seas to the east of Madagascar, the names were evidently based on intelligence gleaned from Arabic or Malabar seamen. The same information is repeated on the 115 × 225 cm replica of the purloined map, reproduced by Nicolò de Caverio in Genoa in 1505.

In 1506, a squadron of ships headed by Afonso de Albuquerque and Tristão da Cunha made landfall on *São Lourenço*. Whilst parties led by these men explored the interior, Diogo Fernandes Pereira captained the *Cirne* to reconnoitre the seas east of Madagascar. Pereira discovered the uninhabited island of Réunion on the 9th of February, the feast day of St. Apollonia, in the year 1507. So he named the island *Santa Apolónia*. To the east, he later discovered the uninhabited island of Mauritius, which he christened the *ilha do Cirne* 'the island of the swan', named after his ship.[17]

On one of the maps in the Miller Atlas, a collection of Portuguese maps drawn between 1515 an 1519, Réunion is labelled 'Samta apelonya', and further to the northeast the map indicates 'ylhas que achou domimgos frꝫ piloto', i.e. the islands which were reached by Diogo Fernandes Pereira.[18] The Mascarenes were visited in 1509 by Diogo Lopes de Sequeira and in 1512 by Pedro de Mascarenhas, after whom the archipelago was named the *ilhas Mascarenhas*. East of Mauritius lies the island of Rodrigues, which is named after Diogo Rodrigues, who visited the Mascarenes in 1528. Although currently politically a part of Mauritius, Rodrigues lies twice as far away from Mauritius as does Réunion, at a distance of slightly over 600 km.

On Mauritius, the Portuguese observed the flightless bird *Raphus cucullatus*, which they referred to as *doido* 'simpleton, imprudent fool' because they observed that this bird showed no fear of people, having no natural enemies on the island. No known Portuguese record has yet been recovered that attests to this early usage, but two English sources record that the English name for the dodo derives from the Portuguese. Emanuel Altham visited Mauritius and sent the following letter on the 28th of June 1628 regarding a specimen of dodo which was sent to England:

> You shall receve … and with all a strange fowle which I had at the island Mauritius, called by ye portingalls a Dodo, which for rareness thereof I hope will be welcome to you.[19]

16 Forrest (1985: 96).

17 Captain Pasfield Oliver, ed. 1891. *The Voyage of François Leguat of Bresse to Rodriguez, Mauritius, Java and the Cape of Good Hope* (two volumes). London: The Hakluyt Society (Vol. II, pp. 314–316).

18 In the writings of Gaspar Correa (ca. 1495–ca. 1561), whose manuscripts were first published in the 19th century, the name appears as Diogo Fernandes Peteira (Rodrigo José de Lima Felner, ed. 1858, 1859, 1860, 1861, 1862, 1863. *Lendas da Índia por Gaspar Correa* [three volumes, each in two parts]. Lisboa: Academia Real das Sciencias).

19 quoted by Malgosia Nowak-Kemp and Julian Pender

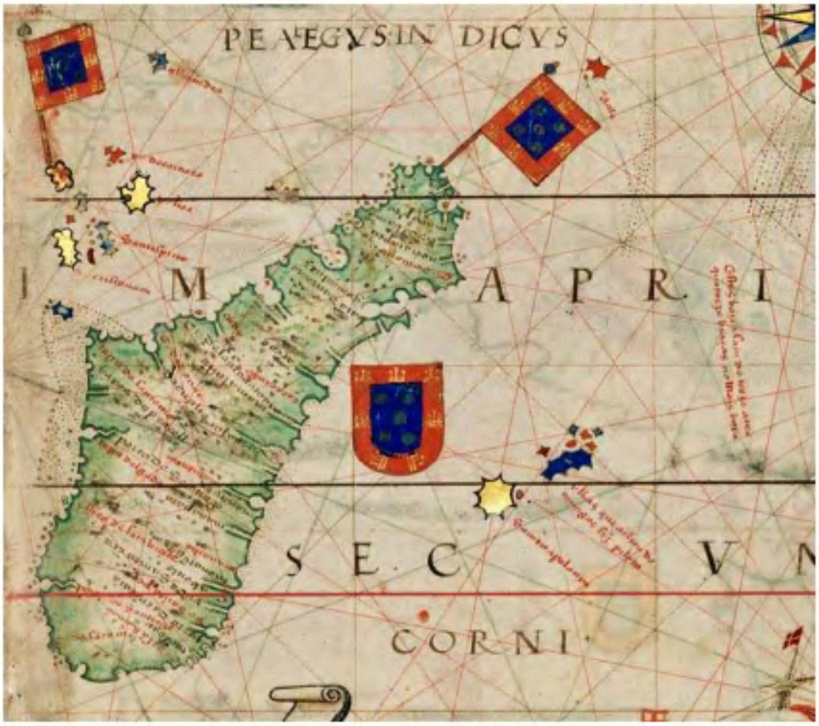

FIGURE 10.6
One of the Portuguese maps in the Miller Atlas, drawn between 1515 an 1519, shows Réunion labelled 'Samta apelonya' and to its northeast 'ylhas que achou domimgos frʒ̃ piloto', i.e. the islands which were reached by Diogo Fernandes Pereira.

Another English traveller, Thomas Herbert, visited Mauritius the following year and later wrote a book about his adventures in Africa and Asia. There is no mention of the dodo in Herbert's first edition of 1634,[20] but in his expanded 1638 edition with regard to 'the Dodo' he noted:

> … a Portuguize name it is, and has reference to her ſimplenes.[21]

In 1598, admiral Wybrandt van Waerwijck made landfall at Mauritius and named the island after the Dutch prince Maurits van Oranje Nassau, *stadthouder* and commander-in-chief of the armed forces of the United Provinces. The Dutch settled the island in 1638 but abandoned the island in 1710, but not before they had driven extinct the dodo. The Dutch colonists called the dodo *walchvoghel* or *walghvoghel* 'revulsion' or 'wallow bird'. The name suggests that the bird was considered repulsive, and both the early Dutch accounts and Herbert's book claim that the meat of the bird was not as savoury as that of other fowl. Therefore, it is

Hume. 2016. 'The Oxford Dodo. Part 1: the museum history of the Tradescant Dodo: Ownership, displays and audience', *Historical Biology*, doi:10.1080/08912963.2016.1152471 (p. 3).

20 Thomas Herbert. 1634. *A Relation of Some Yeares Travaile, begvnne Anno 1626. Into Afrique and the greater Aſia, eſpecially the Territories of the Perſian Monarchie: and ſome parts of the Orientall Indies, and Iles adiacent. Of their Religion, Language, Habit, Diſcent, Ceremonies, and other matters concerning them. Together with the proceedings and death of the three late Ambaſſadours: Sir D.C., Sir R.S. and the Persian Nogdi-Beg: As alſo the two great Monarchs, the King of Perſia, and the Great Mogol.* London: Printed by William Stansby and Jacob Bloome.

21 Thomas Herbert. 1638. *Some Yeares Travels into Divers Parts of Asia and Afrique Deſcribing eſpecially the two famous Empires, the Perſian, and great Mogull: weaved with the Hiſtory of theſe later Times As alſo, many rich and ſpatious Kingdomes in the Orientall India, and other parts of Asia; Together with the adjacent Iles. Severally relating the Religion, Language, Qualities, Cuſtomes, Habit, Deſcent, Faſhions, and other Obſervations touching them. With a revivall of the firſt Diſcoverer of America. Reviſed and Enlarged by the Author.* London: Printed by R.Bi. for Iacob Blome and Richard Biſhop (p. 347).

FIGURE 10.7
A dodo bird, depicted by Adriaen van de Venne in 1626

all the more repugnant that the poor animal was driven to extinction.

The flightless dodo was not the sole easy prey. When Willem IJsbrantsz. Bontekoe and his crew on the Dutch East Indiaman *Nieu Hoorn* and a squadron of five other ships reached the archipelago in 1619, contrary winds at first prevented them from reaching Mauritius and compelled them to make landfall on Réunion. Here his crew had an easy time catching sea turtles which had come to lay their eggs on shore, and in particular his hungry seamen were able to catch various species of fowl effortlessly because these insular birds were so unaccustomed to having to flee from large mammalian predators such as humans.

Bontekoe described one species of flightless bird on Réunion, to which he referred as *dodaars*, actually the Dutch name for the little grebe *Tachybaptus ruficollis*.

> Daer waren oock eenige dod-eerfen, die kleyne vleugels hadden, maer konden niet vliegen, waren foo vet datfe quallijck gaen konden, want als fy liepen, fleepte haer de neers langhs de aerde.[22]

22 Willem IJsbrantsz. Bontekoe. 1646. *Iovrnal ofte Gedenckwaerdige beschrijvinghe vande Ooft-Indifche Reyfe van Willem Ysbrantfz. Bontekoe van Hoorn. Begrijpende veel wonderlijcke en gevaerlijcke faecken hem daer in wedervaren. Begonnen den 18. December 1618. en vol-eynt den*

FIGURE 10.8
An engraving depicting Willem IJsbrantsz. Bontekoe, Westfries Museum

> There were also some little grebes which had tiny wings but could hardly fly. They were in fact so fat that they could hardly walk, and, when they walked, their backside would drag along the ground.

This first report gave rise to the belief that a distinct species of flightless bird akin to the dodo may once have lived on Réunion, but the naturalists Hume and Cheke have recently built up an argument against the plausibility of this hypothesis.[23] Yet the extinction of the dodo and the many other unclarified descriptions of yet unidentified species in early accounts highlight the fragility of life on earth, a tragic vulnerability which is only exacerbated in insular habitats.

Habitat destruction under burgeoning human population growth continues to drive countless species of life into extinction today. Human migra-

16. November 1625. Hoorn: Ghedruckt by Ifaac Willemfz. Voor Ian Ianfz. Deutel (blz. 7).

23 Julian Pender Hume and Anthony Stephen Cheke. 2004. 'The white dodo of Réunion Island: Unravelling a scientific and historical myth', *Archives of Natural History*, 31 (1): 57–79.

tions have since the Neolithic agricultural revolution some twelve thousand years ago gone hand in hand with the dissemination of various species of plants and animals into new habitats. The spread of non-native species across the globe exploded during the age of European maritime expansion. The introduction of tea to the Mascarene Islands was conducted by two of the many botanists who sought out and deliberately introduced plant species into new environments.

In 1715, five years after the Dutch had abandoned Mauritius, France claimed the island and renamed it *l'Isle de France*, after the rural province surrounding Paris, particularly to the north of the city, which had traditionally been called *l'Isle de France* 'the isle of France' or *Ager Parisiensis* 'the Parisian field' at least since the time of the Capetian dynasty (987–1328). The precise administrative borders of the province have perennially changed, and the modern orthography of the name is l'Île-de-France.

A priest named *abbé* René Galloys, who was licenced as *Naturaliste du Roi et du Jardin royal* 'naturalist of the king and the royal garden', was sent to Canton in 1764 and again in 1766 to obtain plants of various descriptions. At the behest of the botanist Pierre Poivre, who served as the *intendant* of l'Isle de France and l'Île de Bourbon from 1767 to 1772, père Galloys planted the first tea plants on l'Isle de France in 1769.[24]

In August 1810, during the Napoleonic wars, the French repulsed a British invasion of Mauritius at the Battle of the Grand Port, but some months later in December 1810 the British landed at Cap Malheureux and seized the island. Under British rule, the island reverted to its former Dutch name Mauritius, which in French is *l'île Maurice*. The first British governor, Sir Robert Townsend Farquhar (*obtinebat* 1811–1817, 1820–1823), encouraged the tea plantations and himself maintained a tea garden at Le Réduit, but the commercial cultivation of tea was abandoned after his term. Over half a century later, Sir John Pope Hennessy became the 15th governor of Mauritius (*obtinebat* 1883–1889) after having served as the governor of Hong Kong. Hennessy set up tea plantations at Nouvelle France and Chamarel. By the end of the 19th century, some 190 hectares had been planted with tea.

By the Second World War, there were many private planters and 850 hectares were under cultivation, and five tea factories had been established. In 1948, a Tea Research Station was set up at Wooton. In 1955, the government launched programmes and incentives to stimulate smallholders as well as large-scale private plantations by offering long-term leasing at nominal rental rates on crown lands to smallholders and prospective tea planters. Tea villages were established by the government to encourage the smallholders to live in the vicinity of the tea plantations, and tea was planted in areas too humid for profitable sugarcane cultivation. The Tea Control Board was established, and the Tea Industry Control Ordinance 1959 came into effect from February 1960. With government assistance, tea smallholders established the Dubreuil tea factory in 1967 to process their harvest.

In 1968, Mauritius was granted independence. The Tea Development Authority or *l'Autorité chargée du développement du thé* was created to manufacture and market tea and to engage trainees aspiring to smallholder status. By 1975, an additional 1,234 hectares had come under tea cultivation. The ordinance of 1959 was replaced by the Tea Industry Control Act of 1975. In 1986, the Mauritius Tea Factories Company was established to take over manufacturing and marketing from the Tea Development Authority, whose role was reduced to a monitoring capacity.

A fall in tea prices and a rise in local production costs created a crisis in Mauritian tea which necessitated government subventions. In 1990, a

24 Jean-Paul Morel. février 2011. 'Mission en Chine confiée à l'abbé Galloys Le 28 novembre 1766—Secrétaire au ministre. Un document des Archives Nationales. A.N. Col E.197, vue 201', ⟨pierre-poivre.fr/doc-66-11-28b⟩; Jean-Paul Morel. février 2011. 'Le 14 août 1769—L'abbé Galloys au ministre. Un document des Archives Nationales. A.N. Col E.197', ⟨pierre-poivre.fr/doc-69-8-14⟩.

team of Indian consultants advised the Mauritians on how to revamp their tea industry. However, the three-year rehabilitation programme did not render the tea industry profitable, and tea planters were encouraged to go back into sugarcane production, with some 2,500 hectares of tea being converted into sugarcane fields.

Today there are 760 hectares of land under tea cultivation, principally grown for local consumption. The private tea growers are Le Bois Chéri, Corson, La Flora and La Chartreuse.[25] At the Le Bois Chéri tea estate in Mauritius, tea plucking machines manufactured by Kawasaki, outfitted with a cutter bar, air blaster and receiving sack, were operated as early as the 1980s by a team of three people going down the rows of tea bushes.[26] Tea is no longer subsidised directly in Mauritius, but protected by measures such as 57% duties on imported teas and the imposition of an additional tea import licence fee. Mauritian tea producers have branched into tea gastronomy, with Le Bois Chéri since 2008 offering dishes at their eponymous restaurant, such as *poulet au thé vert, chatini de thé, grosses crevette au thé exotique* and *sorbet au thé*.

The island of Réunion is another island of the Mascarenes where tea is grown. Nuno da Cunha was appointed governor of the *Estado da Índia*, the Portuguese possessions in India, in which capacity he served from 1528 to 1538. On his way to India in the year 1528, his ship was caught in a heavy storm lasting 1½ days.

> Sobre o que o Gouernador falou com os pilotos, e assentou hir buscar a ilha de Santa Apelonia, que tem muytos rios d'agoa doce, e muytos aruoredos, e aues e pescados …[27]
>
> Whereupon the governor spoke with his helmsmen, and determined to go look for the island of St. Apollonia, which had many rivers of fresh water and many trees and birds and fish …

The Portuguese used the island as a place to go ashore and refresh oneself, but *Santa Apolónia* remained uninhabited for a century and half after its first discovery. Then, in 1642, Jacques de Pronis exiled a dozen French mutineers from Fort Dauphin to *Santa Apolónia*, and in 1649 the island was renamed *île de Bourbon* after the French royal house and claimed by France.

In 1793, in the wake of the French revolution, the *île de Bourbon* was renamed *île de la Réunion*, and from 1806 to 1810 during the First Empire the island was named *île Bonaparte*, and during the Restoration from 1810 to 1848 the island was renamed *île de Bourbon* again. Since 1848, the island has been renamed *île de la Réunion*, and today this Indian Ocean island constitutes a *Département et région d'outre-mer* of France. On the island of Réunion, tea underwent a similar *débâcle* as in Mauritius. In the 1960s, about 350 hectares were under tea cultivation on Réunion, but today just 3 hectares are cultivated by the sole tea planter, Johny Guichard, who produces organic tea at the village of Grand-Coude near St. Joseph.[28]

Vasco da Gama saw the Seychelles in 1502 and named them the *ilhas Amirante* 'Admiral islands'. During the war of the Austrian Succession (*gerebatur* 1740–1748), France and her allies were pitted against England and her allies. In November 1743, the governor of the Isle de France and the Île de Bourbon, Bertrand François Mahé, *comte* de La Bourdonnais, sent Lazare Picault and Jean Grossen to take possession of the *Amirantes* for France. The principal island was named Mahé after the governor, who in 1746 sailed to India to fight the British at Negapatnam, and he seized Madras from the British East India Company that same year. Ten years later, in 1756, France occupied the islands, which were then named the 'Séchelles' after Jean

25 ⟨http://agriculture.govmu.org/English/Pages/Crops/Tea.aspx⟩.
26 Forrest (1985: 18).
27 de Lima Felner (1862, Tomo III, Parte I, pp. 308–309).
28 ⟨http://neo-agri.org/jojo-the-only-french-producer-of-tea/⟩.

Moreau de Séchelles, who at the time was *contrôleur général des finances* for Louis XV in Paris.

In 1810, during the Napoleonic wars, Britain seized the Seychelles, and in 1814 they officially passed into British hands as a crown colony. Tea was first planted in the Seychelles by the Scottish tea planter Bill Henderson who brought 1000 kg of tea seed from Kenya in 1961. This led to the establishment of the sole plantation on the islands in 1962 in the hills of Morne Blanc at Port Glaud in the western part of the main island of Mahé. A factory was built, and tea production started in 1966. The Seychelles were granted independence in 1976.

In 1980, the Seychelles produced 167 tonnes of green leaf plucked from this one British-owned estate,[29] which later passed into the hands of an Italian firm. In 1988, the Seychelles Marketing Board took over the 43-hectare tea estate. Production was scaled down, which came as good news for the fragile island habitat with its many rare endemic floral and faunal species to protect and to nurture. The reduced plantation was divided into twenty fields. In the 1990s, the Seychelles Trading Company introduced flavoured teas, and in 2014 some newer flavoured teas were introduced alongside a novel high-end product of interest to the tea connoisseur, the Seychelles' own Silver Tips, which will hopefully undergo continued refinement.[30]

The Azores and Brazil

Until the 16th century, the Azores, or *Açores* in Portuguese, were widely known as the *ilhas flamengas* 'Flemish Islands'. For over a decade after their discovery in 1427, these islands remained uninhabited, and attempts to populate them, beginning from 1439 with the islands of Santa Maria and São Miguel, had met with only limited success. Then by a seigneurial contract drawn up at Silves on the 2nd of March 1450, prince Henry the Navigator extended a feudal grant for the island of Terceira, then known as *a ilha de Jesus Cristo*, to Jacob van Brugge, remembered in Portuguese as Jácome de Bruges, who was born in Brugge in 1415 and who at this time had been living and trading at the city of Oporto for at least ten and perhaps as long as twenty years.

In the year 1451, van Brugge brought himself and seventeen Flemish families to settle on the island. On the 1st of February 1468, a similar licence was granted by prince Fernando to Joost de Hurtere, remembered in Portuguese as Jorge de Utra, who brought Flemish settlers to colonise the island of Faial as early as 1466 and later, by grant of the 29th of December 1482, also the island of Pico. In the era before nation states, the links between Portugal and Flanders were of a dynastic nature. Prince Fernando's aunt Isabel was the duchess of Burgundy and countess of Flanders, wife of Philip the Good and mother of Charles the Bold.[31]

29 Forrest (1985: 96).

30 Joe Laurence. 2014. 'A refreshing taste—New range of flavoured tea from the Seychelles' "SeyTe" brand', *Seychelles News Agency*, 18 September 2014.

31 Anachronistically, some Belgian scholars have accentuated the Flemish role, as a few Portuguese scholars have attempted to minimise the Flemish presence on the Azores. The history of the peopling of the Azores is complex, and population genetic studies, not surprisingly, appear largely to corroborate known history (C. Santos, M. Lima, R. Montiel, N. Angles, L. Pires, A. Abade and M.P. Aluja. 2005. 'Genetic structure and origin of peopling in the Azores islands (Portugal): the view from mtDNA', *Annals of Human Genetics*, 67 (5): 433–456; P.R. Pacheco PR, C.C. Branco, R. Cabral, S. Costa, A.L. Araújo, B.R. Peixoto, P. Mendonça and L. Mota-Vieira. 2005. 'The Y-chromosomal heritage of the Azores Islands population', *Annals of Human Genetics*, 69 (2): 145–156; Cláudia Castelo Branco and Luisa Mota-Vieira. 2011. 'The genetic makeup of Azoreans *versus* mainland Portugal population', pp. 129–160 in Dijana Plaseska-Karanfilska, ed., *Human Genetic Diseases*. Rijeka: InTech Europe). Important recent historiography includes: José Guilherme Reis Leite. 2001. 'A historiografia açoriana na 1ª metade do século XX: Uma tentativa de compreensão', *Arquipélago História*, 2ª série, V: 527–542; Rute Dias Gregório. 2005. *Terra e Fortuna: Nos primórdios da ilha Terceira (1450–1550)* [two volumes]. Ponta Delgada: Dissertação apresentada à Universidade dos Açores para obtenção do grau de Doutor em História, especialidade de História Medieval; José Guilherme Reis Leite. 2012. 'Os flamengos na

The Portuguese disseminated many species around the world, such as chillies. Records of many of these early transplantations of species are incomplete. We know that the Portuguese introduced the tea plant to Mozambique, Madeira, the Azores and Brazil, but we do not know precisely when. In a letter written on the 11th of June 1801 to the minister Rodrigo de Sousa Coutinho, the *Capitão Geral dos Açores*, the count Lourenço José Boaventura de Almada recounted that he had been commanded by a dispatch from *Sua Alteza Real*, the prince regent of Portugal João VI, dated the 29th of November 1799, to plant tea trees in the court at Angra do Heroísmo. The count de Almada reported that the apparent intention was to amass the tea trees which were growing wild between the rocks of the island. These tea trees must, therefore, have been introduced to Terceira much before this date, in the unrecorded past, and then forgotten.

During the Napoleonic invasions, the Portuguese royal court of queen Maria I (*regnabat* 1777–1816) was transferred to Rio de Janeiro, which became the capital of the kingdom of Portugal for the 13½ years from November 1807 to April 1821. In 1812, the first shipment of tea plants were brought from Macau by Rafael Botado de Almeida, who had them planted in the *Real Horto* 'royal garden', today's *Jardim Botânico*. Under king João VI (*regnabat* 1816–1826), who took an interest in the cultivation of tea, some tea plants along with four Chinese tea workers were brought from Macau to the Portuguese royal court at Rio de Janeiro in 1816 as a gift from the emperor Jiāqìng 嘉慶 (*imperabat* 1796–1820).[32] Tea plantations were established near Rio de Janeiro and around São Paolo.[33] However, the Brazilian tea industry collapsed when slavery was abolished by princess Isabel on the 13th of May 1888, when she promulgated the *Lei Áurea* 'golden law' as the regent of her father, the emperor Pedro II of Brazil. Tea cultivation was only revived once again by tea enthusiasts amongst the Japanese immigration to Brazil, a demographic wave which was first set into motion in 1908.

Tea was subsequently also introduced to the island of Madeira, where the British legation once successfully produced tea in 1825.[34] Around 1820, Jacinto Leite Pacheco, the former commander of the royal guard at Rio de Janeiro, returned from Brazil with tea plants to his native island of São Miguel, where he planted the trees at Calhetas. Around this time, tea seeds from Brazil were also planted at Santo António, which had been brought to São Miguel for João Soares de Sousa by one of his former indentured servants. Some of the resulting tea plants were transplanted from Santo António to Capelas as ornamentals by António Soeiro Lopes de Amorim.

The Sociedade Promotora da Agricultura Micaelense was established in 1843 in the wake of the orange tree blight that exacerbated the decline of citrus exports to the United Kingdom. In 1874, when the decline of Micaelense citrus seemed irremediable, the society decided to pursue the manufacture of tea and sent requests for instruction in tea making to Macau and to the Portuguese consulates at Hong Kong, Japan, Calcutta and Rio de Janeiro. They received no replies to these entreaties other than from Macau. On the 5th of March 1878, two Macanese named Lau-a-Pan and his assistant and Portuguese interpreter Lau-a-Teng arrived at Ponta Delgada on the island of São Miguel to teach tea making. Lau-a-Pan kept his hair in a pigtail over 90 cm in length and was fond of smoking opium, whereas his assistant Lau-a-Teng, who spoke English in addition to Portuguese, had embraced Roman Catholicism and liked to go by the name of António.[35]

colonização dos Açores', *Boletim do Instituto Histórico da Ilha Terceira*, LXX: 57–74.

32 Teles e Cunha (2002: 295–296).

33 Mendes Ferrão (2015: 320).

34 Mendes Ferrão (2015); Mário Moura. 2015. 'Tea: A journey from the East to the mid-Atlantic', *European Scientific Journal*, 11 (29): 19–49.

35 Jorge Tavares da Silva. 1999. 'Le thé aux Açores', pp. 91–95 in Barrie and Smyers (op.cit.); Pedro Pascoal F. de Melo. 2012. 'Breve História de cultura do chá na Ilha de São Miguel, Açores', *Revista Oriente*, 21: 40–49.

FIGURE 10.9
The Portuguese interpreter Lau-a-Teng and the tea master Lau-a-Pan taught tea manufacture on the island of São Miguel in the Azores from March 1878 by invitation of the *Sociedade Promotora de Agricultura Micaelense*, private collection

The two Chinese tea men first provided training at the tea garden of José do Canto at Ribeira Grande. The first 52 kg of commercial tea were produced in April 1879 from the plantations at Ribeira Grande, Porto Formoso and Capelas, and in July of that year the two Macanese embarked to return home. To protect the fledgling tea industry, José do Canto pushed through legislation on the 26th of May 1880 at Ponta Delgada ensuring an exemption from any duties on tea from the Azores for 25 years. Imported teas were subjected to heavy customs duties, whereas Micaelense teas were exempted from various taxes, but some of the more ambitious fiscal incentives to protect Micaelense tea proposed in 1881 by Caetano de Andrade Albuquerque de Bettencourt were not approved.[36]

Initially, tea production in the Azores was all conducted by hand in an artisanal fashion, as taught by Lau-a-Pan and Lau-a-Teng, including the manufacture of silver tips or *chá de ponta branca* and *chá verde* 'green tea'. In 1893, the first British tea preparing machinery from Marshall & Sons arrived in the Azores, including rollers, dryers, fanners and mechanised graders and sifters. José do Canto brought in two Chinese tea consultants from Hong Kong named Lao Sam and Chon Sem. However, in sequel to the process of mechanisation, the emphasis shifted to the production of *chá preto* 'black tea' and even low-grade tea denominated *chá de povo* 'people's tea', i.e. unrolled tea made from hard mature leaves, sometimes used as a base for adding flavourings to make scented teas.

Whereas there were only ten pioneering Azorean tea planters at the outset, by the beginning of the 20th century, 48 tea planters were cultivating tea in the Azores on a total of 435 hectares of land. Out of all the arable land under tea cultivation, 80 % was located within Ribeira Grande county on São Miguel island. However, many small tea gardens could also be found in all of the counties of Ponta Delgada district as well as in the county of Horta on the island of Faial, whilst some tea bushes were also introduced to the island of São Jorge. The more prominent plantations included *Chá Canto* owned by the heirs of José do Canto, José Bensaúde's *Chá Bensaúde*, Luís de Ataíde Corte Real da Silveira Estrela's *Chá Corte Real*, Ermelinda Pacheco Gago da Câmara's *Chá Gorreana*, Vicente Machado Faria e Maia's *Chá Visconde de Faria e Maia*, José Maria Reposo do Amaral's *Chá da Barrosa*, the tea garden of Augusto Ataíde and the plantation of Manuel Raposo.

36 Maria Emanuel Albergaria. 2015. 'A planta do chá', pp. 8–17 in Duarte Manuel Espírito Santo Melo e Maria Emanuel Albergaria, eds. *Caminhos do chá*. Ponta Delgada: Museu Carlos Machado e a Secretaria Regional da Educação e Cultura.

FIGURE 10.10 Chá Gorreana tea estate on São Miguel overlooking the North Atlantic, photo taken during winter dormancy

The Azorean tea industry flourished during the First World War, but during the 1930s Micaelense tea had to struggle to compete with Mozambican tea on the Lisbon market. In 1940, there were fourteen tea factories in operation on the island, and the Azorean tea industry flourished during and after the Second World War. Beginning in the 1960s, the Micaelense tea industry and other agricultural enterprises suffered from the economically motivated wave of emigration from the Azores to Canada and the United States during the years of discontent leading up to the revolution of the 25th of April 1974, but also well into the 1980s due to the labour laws newly enacted in the aftermath of the Carnation Revolution. There were only seven tea enterprises in 1960 and five by 1966. Soon afterwards, *Chá Gorreana* was the sole surviving tea producer on the island without ever having benefited from any subventions or support from Lisbon, and the story of their survival is instructive.

In 1883, at the age of 51, the wealthy land owner Ermelinda Gago da Câmara, the wife of José Honorato Gago da Câmara, founded a tea plantation. When she died in 1913, the tea plantation was inherited by her granddaughter Angelina, whose husband Jaime Hintze took over management of the plantation in 1914. Hintze mechanised the tea production process with British tea processing machinery manufactured for use in British India. In 1926, he installed a 22 kilowatt hydel to power the new machinery and rebranded the new tea as *Gorreana*. With the newly mechanised tea manufacture, the tea produced became fully 'orthodox' tea in the British Indian sense, and there has been no evolution in the tea processing techniques since. When Hintze died in 1945, the prop-

FIGURE 10.11
Just west of Chá Gorreana plantation lies the tea estate of Chá Porto Formoso on São Miguel

erty was inherited by his only son Fernando Gago da Câmara Hintze. When the son died in 1961, the management of the property was taken over by his wife Berta Maria Ferreira de Lima Meirelles, who had been born at Ponta Delgada in 1926 and was just 34 years old when she became a widow.

In the 1990s, the management of Gorreana was taken over by Margarida Meirelles Gago da Câmara Hintze, born in September 1945 as the only daughter of Fernando Hintze and Berta Meirelles, and by her husband Hermano Mota, who had also been also born into a Micaelense tea planter's family. In 2013, with Hermano's death, their daughter Maria Madalena Hintze de Ataíde Mota, assisted by her sister Sara, took over management of the plantation and factory, whilst her brothers, Fernando Luís, André and Tiago, deal with the labourers. Chá Gorreana produces between 37 and 40 tonnes of tea annually, graded as pekoe, orange pekoe, imperial white tips, hyson and pérola. The climate and isolation of the Azores kept the *chá micaelense* naturally free from parasites and pests that afflicted tea in wetter climes so that even today tea can be produced commercially without the use of pesticides.[37]

The irony is that the mechanisation of the tea manufacture that resulted in the production of 'orthodox' tea of the British Indian genre, and the enduring economic benefit of environmentally friendly power generated by their hydel, enabled this sole tea plantation to survive on São Miguel. To the west, nearby on the same northern coast, Amâncio Faria e Maia established *Chá Porto Formoso* in 1920, but this tea garden too was compelled to close down in the 1980s. José António Pacheco acquired the plantation in 1998, and after a thorough restoration the firm *Chá Porto Formoso* managed to reopen in 2001.

37 Maria Emanuel Albergaria. 2015. 'O chá em São Miguel: O caso das plantações de chá Gorreana', pp. 24–41 in Melo and Albergaria (op.cit.).

Madalena Mota has expressed the dream to visit tea plantations elsewhere in the world some day,[38] and indeed these two Micaelense tea gardens are well poised to make fine artisanal teas should they decide to import traditional tea knowledge and craftsmanship from the Orient once again and perhaps adopt some of the innovative Japanese technologies as well. The Azores currently yield a fine tea in its genre, marketed primarily to tourists visiting the islands, to the Lisbon market and to North America, but with the prompt and knowledgeable processing of skilfully hand-picked fresh buds and leaf tips, this unique and rare volcanic *terroir* and lush and pristine environment in the middle of the North Atlantic could one day be utilised to it full potential. Hand-picked high-end fine artisanal organic green and white teas could be produced for niche markets.

Soon after the successful establishment of tea plantations in the Azores, an attempt was made to grow tea on the European mainland. On the 16th of December 1882, the popular science magazine *La science pour tous* described an attempt to acclimatise tea to the lower Loire basin.

> On est en train d'acclimater le thé dans la Loire-Inférieure; déjà quelques pieds greffés aux camélias auraient parfaitement supporté en plaine terre 18 degré au-dessous de zéro. Encore un peu, et le thé ne sera pas plus difficile à récolter que le tilleul; reste à savoir si l'arôme ne perdra pas quelque chose au changement du climat.[39]

> An attempt is underway to acclimatise tea to the lower Loire basin. Already some grafted Camellia plants have pulled through the winter in the open air at −18°C. Soon enough the tea will be no more difficult to harvest than the linden, although it remains to be seen whether the aroma will have lost anything as a consequence of the change of climate.

This was not the first tea to be grown in France. Tea trees already grew in France as botanical specimens in the 1780s, as recounted in the previous chapter. The outcome of the French experiment near Angers and Saumur proved not to be commercially viable at the time, however.[40] In the early 1890s, an unsuccessful attempt was also made to cultivate tea in Minho province in the north of Portugal.[41]

French Tea Cuisine and Other New Trends

In 1742, Vincent la Chapelle invented a recipe for a *Crême de Thé* to be served as an *entremets* in the second edition of his five-volume cookbook *Cuisinier moderne*, published at The Hague, where he served as chef to the *stadthouder* Willem IV.[42] In 1860, Henri Mariage invented a tea flavoured chocolate, which he christened *chocolat des mandarins*.[43] In 1873, Alexandre Dumas mentions *fromages bavarois* infused with tea, little pastries known as *darioles* filled with a tea-infused cream and even a green tea ice cream flavoured with the juice of citron *Citrus medica*.[44] Nonetheless, the use of tea as an ingredient remained relatively limited.

One of the many French tea merchants of the period, Jean-François Mariage, was born in 1766 in Lille, where he established himself as a mer-

38 Bruna Roque. 2015. 'Histórias de vida', pp. 42–63 in Melo and Albergaria (op.cit.).

39 Kitti Cha Sangmanee กิตติชาติ แสงมณี. 1999. 'L'art français du thé', pp. 67–87 in Barrie and Smyers (op.cit., p. 73).

40 Ukers (1935, Vol. I, p. 206).

41 Cristóvão Moniz. 1895. *Cultura do chá na ilha de S. Miguel*. Lisboa: Administração do Portugal Agricola (p. 107).

42 The word appears in the orthography *entremêts* (Vincent la Chapelle. 1742. *Le cuisinier moderne, qui apprend à donner toutes fortes de repas* (five volumes). La Haye: Aux Dépens de l'Auteur, Vol. III, p. 259).

43 Alain Stella. 2009. *Le thé français*. Paris: Éditions Flammarion (pp. 18–21).

44 'glace à la crème … au thé vert et jus de cédrat' (Dumas 1873: 472, 506, 607).

FIGURE 10.12
Alexandre Dumas (1802–1870), alias Dumas Davy de la Pailleterie, as photographed by Étienne Carjat in 1869

chant of tea, spices and other products from the East. One of his four sons, Auguste Mariage, left their father's business in Lille to establish a business in tea and Oriental products in rue Simon-le-Franc in the Marais in Paris in 1830. In 1843 he was joined by his brother Charles, and the business expanded and moved to 23 rue Sainte-Croix-de-la-Brettonerie. After the three sons of yet a third brother, Aimé, began to work in the business, they essentially took over and established today's Mariage Frères in 1854, moving their tea trade to 4 rue du Cloître-Saint-Merri.[45] The company served a niche market, specialised in exquisite teas for top-end establishments.

In 1873, Dumas observed that, although many kinds of tea were known, in France consumption had by this time become limited to a variety of gunpowder or 'pearled' tea, souchong and pekoe.[46] He also reported that in France it was customary for the mistress of the household to prepare the tea, to which the drinker could add sugar, a 'cloud of cream', a slice of lemon or a drop of cognac, accord-

45 Kitti Cha Sangmanee กิตติชาติ แสงมณี. 1999. 'L'art français du thé', pp. 67–87 in Barrie and Smyers (op.cit.).

46 'le thé perlé, dont la feuille est parfaitement roulée sur elle-même, le thé souchong, dont les feuilles sont d'un vert sombre, un peu noirâtre et bien roulées; enfin, le pékao, en pointes blanches, celui dont l'odeur est plus aromatique et la plus agréable' (Dumas, 1873, p. 1026).

FIGURE 10.13
Richard Alexander Bueno
PHOTO COURTESY OF MARIAGE FRÈRES, PARIS

ing to taste. In 1892, the brothers Lazare and Pétrus Digonnet established a tea company in Marseille, which after a few years they renamed *Thés de l'Eléphant*. This successful company grew, acquiring and absorbing other companies, until in 1975 it was itself acquired by Lipton, a brand which had already been acquired by Unilever in bits and pieces between 1938 and 1972. In 1898, George Cannon, a Briton married to a French lady, established a tea company in Paris under his own name, which was purchased by André Scala in 1970 and is today headed by his grandson Augustin Scala.

The French tea traders Dammann Frères claim to trace their lineage back to François Damame, who from the 1st of January 1692 was granted the privilege to furnish tea as the sole purveyor to the royal court for an initial period of six years.[47] After the turmoil of the revolutionary period, the royal purveyor's presumed descendants resurfaced in 1825 as party to the firm Derode Frères et

47 'Le Roy ayant par Refultat de fon Confeil de ce jourd'huy traité avec Maiftre François Damame Bourgeois de Paris, du privilege de vendre feul, à l'exclufion de tous autres, pendant fix années, à commencer due premier Janvier de la prefente année 1692', *Arrest du conseil d'État du Roy, Concernant la vente du Caffé, du Thé, du Sorbec & du Chocolat. Du 22. Janvier 1692. A Paris, Chez Estienne Michalet, premier Imprimeur du Roy, ruë faint Jacques, à l'Image faint Paul* (photographically reproduced in Raibaud and Souty (op.cit., pp. 165–167)).

Dammann that was established that year, dealing in vanilla and tea in Paris and Batavia. In 1925, this firm grew into Dammann Frères, located at 8 boulevard Sébastopol. In 1954, Jean Jumeau-Lafond joined the firm and famously introduced its *goût russe*, which is a secret mélange made with the zest of a species of citrus other than the bergamot used in Earl Grey.[48]

In 1982, the company of Mariage Frères was acquired by Richard Bueno, a Dutchman of partial Dutch East Indian extraction, and his friend Kitti Cha Sangmanee กิตติชาติ แสงมณี of Thailand. They converted the company from a tea wholesaler to a retailer and moved to the rue du Bourg Tibourg in 1985. The renowned perfumier Jean-Claude Ellena recalls how in the 1980s Mariage Frères changed the landscape of French tea by taking the public at large away from the arid landscape of CTC teas back to the lush garden of subtle aromas and delicate fragrances which has always been the domain of the tea connoisseur.[49]

Richard Bueno and Kitti Cha Sangmanee had been experimenting ever since 1980 with both new tea mélanges as well as tea cuisine, at a time that no chef or *pâtissier* in all of France was using tea as an ingredient. In 1986, they began offering an array of dishes of their new *cuisine au thé* at their Parisian tea salon in the rue du Bourg-Tibourg, and their gastronomical repertoire of tea dishes has been evolving ever since.[50] In 1990, Mariage Frères opened a new tea salon in Paris at 13 rue des Grands-Augustins. This was soon followed in 1997 by a new tea salon at 260 rue du Faubourg-Saint-Honoré as well as in the Ginza in Tōkyō, where a second tea salon was opened in 2003 in Shinjuku.

After Bueno's death in 1995, Franck Desains, who joined Mariage Frères in 1987, began increasingly to contribute to the development of the teas. In 1986, Kitti Cha became the first to experiment with a mélange combining both green and black tea. In modern French tea, there are no blenders who work to assure a uniform standard brew year after year. Rather, new aromatic compositions are created by 'marrying' fragrances and flavours. The revival of French tea culture spearheaded by Richard Bueno and Kitti Cha Sangmanee inspired others, but also provoked one rather embarrassingly blatant case of slavish imitation.[51]

48 Yi, Jumeau-Lafond et Walsh (1983: 167).

49 Jean-Claude Ellena. 2007. *Le Parfum*. Paris: Presses universitaires de France (pp. 24, 52).

50 Stella (2009: 42–55).

51 Some who were inspired to emulate Mariage Frères were not copycats, but kindred spirits who developed their own particular style. However, many travelling tea connoisseurs were astonished to witness that a nearly identical clone of the famous Parisian tea business Mariage Frères had suddenly popped up in Singapore in 2008 under the name 'TWG Tea'. The company was founded that year by Taha Bouqdib, an ex-employee who had absconded from Mariage Frères, together with his wife Maranda Barnes and the Singapore-based investor Manoj Mohan Murjani. Murjani, who had established the Wellness Group in 2003, provided the capital to finance the venture. The acronym TWG in the brand name initially stood for 'The Wellness Group'. After his abrupt departure from Mariage Frères, Bouqdib, also written as Bou Qdib, brought with him to Singapore the insider knowledge that enabled the creation of a Mariage Frères clone. From the outset, their tea was largely sourced from Mariage Frères' confidential list of suppliers, and in the eyes of most tea lovers the entire formula down to the livery, tea canisters, *pâtisseries*, silverware, table linens and numerous other minutiae had been conspicuously copied from Mariage Frères in mortifyingly painstaking detail. A court case naturally ensued in France against what has been described as an extraordinarily brazen case of *« contrefaçon et imitation »*. Meanwhile, other legal challenges arose. In 2011, when TWG Tea opened up a franchise in Hong Kong's prominent IFC Mall, the tea company Tsit Wing Group (TWG), founded in 1932, took TWG Tea to court for the use of their acronym as well as for the false suggestion contained in the company logo that TWG Tea was founded in 1837. John Saunders, the Deputy High Court Judge at Hong Kong, ruled that the mention of the year 1837 in the TWG Tea logo was intentionally misleading. He noted that even *Bloomberg Businessweek* had been thus misled to state in an online report in October 2011 that TWG Tea had been founded in 1837. Both the High Court and the Court of Appeals in Hong Kong ruled that TWG Tea had committed trade mark infringement and passing off. The founders of the enterprise meanwhile also became embroiled in a legal battle between themselves. In 2014, Murjani and his Wellness Group had

FIGURE 10.14 Franck Desains, photo Agence France-Presse © Joel Saget
COURTESY OF MARIAGE FRÈRES, PARIS

Mariage Frères seek to educate their new customers and has since 1996 offered its clients the well-produced and balanced introductory booklet entitled *Le thé*, which does not shirk from dutifully weaning aspiring tea aficionados from bad practices.

> Pour un connaisseur, il est totalement inconcevable d'ajouter ne serait-ce qu'une infime rondelle ou une seule goutte de citron dans une tasse de thé. La raison est simple: cet agrume, en soi très estimable, possède, outre le défaut de métamorphoser de façon criarde la couleur du thé, la fâcheuse propriété de dénaturer complètement sa saveur (ce qui n'est pas le cas de l'orange).[52]

writs of summons issued against Bouqdib, Paris Investment and TWG Tea in retaliation for acts of minority oppression in breach of their shareholder agreement in an attempt to sideline Murjani (K.C. Vijayan. 2013. 'Storm brews over TWG logo in Hong Kong court', *The Straits Times*, 28 July 2013; Rachel Boon. 2014. 'Legal tussle erupts over TWG Tea shares', *The Straits Times*, Thursday 20 February 2014; 'Details on TWG Tea co-founder v. Osim', *The Straits Times*, Monday 24 February 2014; Barbara Dufrêne. 2014. '« Mariage Frères » fête ses 160 ans: Entretien avec son président, Kitti Cha Sangmanee', *La nouvelle presse du thé*, № 47 (le 30 septembre 2014), art. 2; Tee Zhuo. 2014. 'Osim International hit by defamation accusations in ongoing legal tussle', *The Straits Times*, Thursday 13 November 2014; Julie Chu. 2014. 'TWG tea shop may have to change its name after court decision in trade mark case', *South China Morning Post*, 4 December 2014; Karan Sit. 2015. 'Tea for two—or perhaps not! An interesting trade mark case from Hong Kong', *Rouse, the Magazine*, 25 March 2015).

52 Kitti Cha Sangmanee กิตติชาติ แสงมณี, Catherine Donzel, Stéphane Melchior-Durand et Alain Stella. 2006 [1996]. *Le Thé*. Paris: Flammarion (p. 40).

FIGURE 10.15
Kitti Cha Sangmanee กิตติชาติ แสงมณี was awarded the *trophée de l'Esprit alimentaire* by the French Ministry of Foreign Affairs for developing the new French *cuisine à base de thé*, photo © Jacques Torregano
COURTESY OF MARIAGE FRÈRES, PARIS

> To a connoisseur, it is totally inconceivable to add even just a tiny slice or a drop of lemon to a cup of tea. The reason is quite simple: though most worthy in and of itself, this citrus fruit, in addition to the shortcoming of garishly transforming the colour of the tea, has the vexing property of completely deforming its flavour (which is not the case with orange).

The booklet quotes George Orwell, who posed the rhetorical question, 'how can you call yourself a true tea-lover if you destroy the flavour of your tea by putting sugar in it? It would be equally reasonable to put in pepper or salt', but the booklet makes a tiny concession to those with a sweet tooth.

> si le désir de douceur se fait irrépressible, un soupçon de sucre candi blanc (le plus neutre) ne déshonorera pas totalement le buveur, ni l'infusion d'un thé noir, corsé et de qualité moyenne, ni un thé aromatisée …
>
> En revanche—et cette fois la question ne supporte pas le débat—, cette même pincée serait une infamie dans un thé vert aux saveurs délicates.[53]

if the desire for sweetness is irrepressible, a hint of white sugar candy (the most neutral) will not

53 Sangmanee แสงมณี, Donzel, Melchior-Durand et Stella (2006: 105).

> completely discredit the drinker, nor will it taint an infusion of full-bodied average black tea or a flavoured tea …
>
> However—and this time the issue will not suffer debate—, this same pinch of sugar would be an infamy to a green tea with delicate flavours.

In a didactically responsible way, the book explains that this does not hold for sweet Moroccan mint tea, which forms a very special marriage of tastes and somehow does not impair the taste or colour of the green gunpowder tea.[54]

The dedicated tea lover François-Xavier Delmas co-founded the flourishing Paris-based boutique chain *Le Palais des Thés* in 1986, co-authored the French tea drinker's guide, and appears as the protagonist in the Arte documentary film *Thé pour tous* by Olivier Mille and Elena Filippini.[55] In 2014, Didier Jumeau-Lafond, representative of Dammann Teas, another enterprise riding the wave of the rebirth of French tea, is quoted by BBC Magazine as follows:

> When you go to the auctions in China, you can spot the British. They are the ones buying 1,000 tonnes of this, 1,000 tonnes of that. When we buy, it's maybe 10 chests, max! The Brits want the cheapest prices. We just want the best quality. Ours is a niche market, but it's a niche that is growing fast.[56]

In Paris in 1983, recipes were published for five tea cocktails, ranging from a superior punch and grog to newer concoctions such as a tea sabayon as well as recipes for eight non-alcoholic tea drinks and three tea-based desserts.[57] In 1991, new recipes were published in Paris for an Earl Grey sauce, a *matcha* sauce, black tea ice cream and tea granita.[58] In 2002, Mariage Frères published a book with a repertoire of 39 recipes of their tea cuisine creations, and a dozen more recipes were published in 2009.[59] A Japanese green tea with a creative Parisian twist by Mariage Frères is the powerfully green Tanka Cha™, which consists of a fine *sencha* from Uji infused with Japanese *matcha* powder.

In 2006, Kitti Cha Sangmanee was awarded the *trophée de l'Esprit alimentaire* by the French Ministry of Foreign Affairs for his contribution to developing the new French *cuisine à base de thé*. French tea cuisine quickly spread across the globe, inspiring others to follow suit. Lydia Gautier published 17 tea cuisine recipes in Geneva in 2006.[60] French tea cuisine naturally spread to French Canada. Fourteen beautiful recipes are detailed by reputed chefs in a lovely book produced in 2009 by the Maison de Thé Camellia sinensis in Québec.[61] Additional *recettes à base de thé* were published in the French Basque country in 2008 in collaboration with Mariage Frères.[62]

In 2004 in Japan, Mutsuko Tokunaga produced a delightful compendium of novel recipes primar-

54 Sangmanee แสงมณี, Donzel, Melchior-Durand et Stella (2006: 105, 86).

55 Delmas, Minet et Barbaste (2007); The original 2010 French documentary film directed by Stefano Tealdi was rebranded for the anglophone audience as *Global Drinks: Tea*.

56 Hugh Schofield. 'France's silent tea revolution', *BBC Magazine*, 19 April 2014.

57 Yi, Jumeau-Lafond et Walsh (1983: 199–207).

58 Anthony Burgess. 2005. *The Book of Tea*. Paris: Flammarion (p. 190), published in 1991 as *Le livre du thé* by Flammarion in Paris.

59 Éveno, Bagros et du Tilly (2002). An English translation appeared that same year as Juliette de Lavaur, Yves Bagros et Laurence du Tilly. 2002. *French Cuisine with Tea: Book of Original Recipes*. Paris: Hachette. Stella (2009: 42–55) contains a dozen of the recipes developed by Richard Bueno and Kitti Cha Sangmanee กิตติชาติ แสงมณี.

60 Gautier (2006: 138–155).

61 Hugo Americi, Jasmin Desharnais, François Marchand, Kevin Gascoyne et Jonathan Racine. 2009. *Thé: Histoire, terroirs, saveurs*. Montréal: Les Éditions de l'Homme. This is one of the more beautiful books on tea, with good expository visual documentation of the production of oolong and other teas.

62 Laurence Catinot-Crost. 2008. *Le Thé: La merveilleuse histoire*. Biarritz: Atlantica.

ily using *matcha* as an ingredient.[63] In 2010 in Switzerland, Peter Oppliger provided eight tea cuisine recipes by the macrobiotic chef Patricio García de Paredes, formerly at the Kushi Institute of Japan and now at the Kushi Macrobiotic School (クシマクロビオテイツクスクール) in Tōkyō.[64] In Sri Lanka in 2010, Juliet Coombe and Daisy Perry produced a vivacious colourful reportage about Ceylon tea featuring two dozen Ceylonese tea cuisine recipes.[65] These recipes do not rely on Japanese powdered green tea but reap the advantage of the abundant availability of fresh green tea leaves on the island. Especially in view of the fact that most Ceylon tea ends up as fully oxidised brown tea, the creative use of the fresh tea leaves in this lovely new form of gastronomy rescues both their salubrious polyphenols and their subtle savours from perdition by CTC. In the same year, Cynthia Gold and Lisë Sterna published a book detailing over 150 tea recipes.[66]

Whilst the new generation of tea planters in Sri Lanka strive to upgrade the quality of Ceylon tea, inspired tea lovers on the island have explored new ways of using the tea leaves which they so highly cherish. Rather than letting the fresh green tea leaves become fully oxidised and then being shredded, they rescue some of the bountifully available fresh green tea leaves and employ them creatively and tastefully in the new tea cuisine. Unwittingly, the pioneers of this new tea cuisine have stumbled upon the very roots of tea culture by venturing to eat fresh tea leaves, which is actually how the tea saga first started out in the hoary past.

The use of fresh tea leaves instead of just *matcha* in tea cuisine is certainly an advantage of operating a tea cuisine eatery in an area where tea actually grows. Not surprisingly, a study has shown that the number of microbes on freshly picked crude tea is far greater than that found in processed green or black tea. The same study has shown that these microorganisms, which are not pathogenic at any rate, can easily be removed by simply washing the tea leaves in cold water. This procedure leaves the tea leaves just as hygienic as properly prepared salad.[67] In 2014, Rekha Sarin and Rajan Kapoor published recipes for a tea-based punch, two tea-based cocktails and three savoury and three sweet tea-based dishes.[68]

Thailand and Laos

Laos and Thailand have both been discussed in the context of *mî:ang* เมี่ยง, since northern Thailand and northwestern Laos form part of the primordial tea homeland. Even the methods of preparing *mî:ang* differ from one locality to the next. In Phrɛ̂: แพร่ and Nâ:n น่าน, the *mî:ang* is currently made from the whole leaf, whereas in the area around Chi:ang Mài the *mî:ang* is often made from the top half of the leaf. The historical role of Thailand as a tea consuming and producing country has already been discussed. Today the role of Thailand in tea is diverse because the country also newly produces fine leaf teas.

One of the many successful royal projects initiated by king Phu:míphon Àdunyádè:t ภูมิพลอดุลยเดช 'Bhumibol Adulyadej' involved tea plantations growing highland teas, which quickly began to produce commercially viable tea harvests. Initially the teas were of mediocre quality, but soon the Thai highland tea plantations were producing

63 Mutsuko Tokunaga. 2004. *New Tastes in Green Tea.* Tokyo: Kodansha International.

64 Peter Oppliger. 2010. *Grüner Tee.* Aarau: Aargauer Tagblatt Verlag.

65 Juliet Coombe and Daisy Perry. 2010. *Generation T Addicted* and *Tea Cuisine Addicted, Sri Lanka: The Ultimate Guide to Tea.* Galle Fort: Sri Serendipity Publishing.

66 Cynthia Gold and Lisë Stern. 2010. *Culinary Tea: More than 150 Recipes steeped in Tradition from around the World.* Philadelphia: Running Press.

67 Shin-ichi Sawamura, Eri Eto and Ichiro Kato. 2001. 'Microbiological circumstances of crude tea and its plant', *ICOS*, 1 (IV): 71–74.

68 Rekha Sarin and Rajan Kapoor. 2014. *Chai: The Experience of Indian Tea.* New Delhi: Niyogi Books (pp. 276–283).

fine green teas and oolongs. Thailand excels in producing oolongs in the Golden Triangle, which is home to tea stands that are half planted and half wild.

In the first part of the 19th century, the Red Lahu migrated from eastern Tibet via southwestern China to Burma, where they split into three factions, one opposed to the Burmese government, another aligned with the Burmese government, and a third faction refusing to take sides. This third faction migrated to Thailand in the 1880s and settled at Dɔ:i Hompok ดอยห่มปก. In 1952, Tangtao, the leader of the Red Lahu at Dɔ:i Hompok, assumed the name Pù:mùː:n ปู่หมื่น. Subsequently, Pù:mùː:n's son-in-law Càfá Chaikhɔ จะฟะ ไชยกอ became the leader of the Red Lahu and was appointed by His Majesty to protect the Thai frontier and lead the fight against the communist insurgency. Càfá Chaikhɔ helped to effectuate His Majesty's plan to convert farmers in this region from opium cultivation to tea and coffee, and was assassinated by his political opponents in 1983.

Chinese tea traders from Yúnnán had already established a number of small tea plantations near the Burmese border which are older than royal projects, where the hill tribes could grow tea on government lands. At Mɛ̂: Sàlɔ:ng แม่สลอง and Chi:ang Mài เชียงใหม่, the Kuomintang 國民黨 (*Guómíndǎng*) were initially also implicated in the opium trade, but were also amongst the first enthusiastically to switch to tea cultivation. The influence from Táiwān is enormous, with machinery and techniques for the preparation of oolong tea. The *sinensis* cultivar is mainly used, as in the royal projects, but the region is rich in native *assamica*, which grows abundantly and is used to manufacture *mî:ang* เมี่ยง. Hybrids of *assamica* and *sinensis* are also used locally.

Today burgeoning tea plantations in the region sadly threaten to cut down what remains of the wild forests. Intensive plucking every 45 days on some plantations stresses the tea plants and effectuates the further industrialisation of the tea production. Some of the tea plantation in both northern Thailand and in Vietnam have supplied tea leaves directly to Yúnnán, where the tea leaves were converted into cooked Pǔ'ěr tea, whilst rumour has it that some of the locally produced oolongs are sold in Táiwān as Formosan oolongs. The local *assamica* leaves have a robust natural sweetness, which comes to the fore in some of the rare native white teas, but industrialisation of the tea production could lead to the loss of a valuable terroir of the native tea homeland. Yet today even *matcha* is purportedly being made from *assamica* cultivars in northern Thailand.

Thai annual tea production was at 18,500 tonnes in 1995, exceeded 32,000 tonnes in 2000, was in excess of 51,000 tonnes in 2005, reached 67,000 tonnes in 2010 and is currently in excess of 75,000 tonnes, with continuous diversification of the product. In Chi:ang Ra:i เชียงราย, 84% of the tea grown is from the *assamica* cultivar, and 16% is from the *sinensis* cultivar. About 85% of the tea produced in all of Thailand is consumed domestically. Thailand features wild tea, traditional tea gardens and industrial tea plantations. The main tea growing regions are Chi:ang Ra:i เชียงราย, Chi:ang Mài เชียงใหม่, Nâ:n น่าน, Lampa:ng ลำปาง, Phrɛ̂: แพร่ and Mɛ̂: Hɔ̂:ngsɔ̌:n แม่ฮ่องสอน. Chi:ang Ra:i is the largest with 7,200 hectares producing 17,500 tonnes of fresh tea leaves annually. Chi:ang Mài can boast a nearly equivalent output, followed by districts in the order given above.[69]

In northern Thailand, tea leaves have been used in cuisine for some time now. The traditional eating of *mî:ang* เมี่ยง has inspired modern Thai cuisine, which incorporates both *mî:ang* and fresh tea leaves. The Red Lahu businessman Càrə:n Chaikhɔ เจริญ ไชยกอ operates the Phumanee Lahu Home Hotel in Fǎ:ng ฝาง, where various renditions of an absolutely delectable Thai salad are served, featuring crispy fried fresh green tea leaves.[70] At Chi:ang Mài, Kenneth Rimdahl of

69 P. Winyayong. 2007. 'The current status and future prospect for tea production in Thailand', *ICOS*, 3, MI-S-04.

70 Càrə:n Chaikhɔ, born in 1960, is the eldest son of จะฟะ ไชยกอ Càfá Chaikhɔ, leader of the Red Lahu. The youngest son จอน 'John' is also in the tea business.

FIGURE 10.16
Crispy Thai tea leaf salad served at Phumanee Lahu Home Hotel in Fǎ:ng ฝาง

Monsoon Tea ชามอนซูน serves novel tea cuisine dishes exploiting the savoury sensibilities of Thai and Lanna cuisine. The expanding repertoire of gastronomical creations innovated by Rimdahl's business partner Wɔ:ráka:n Wɔngfu: วรการณ์ วงค์ฟู includes chicken with creamy *mî:ang* sauce, pasta dishes with *mî:ang* pesto, chicken nuggets fried in a *mî:ang* batter, tea salads with fresh tea leaves, *kuǎi tiǎ:o lɔ̀:t* ก๋วยเตี๋ยวหลอด pork and *mî:ang* paste noodle dumplings. Meanwhile, Prada, the luxury fashion house, has been moving into tea and has recruited Rimdahl's services. As a first step, Prada has bought a pastry shop in Milan which they have converted into a tea room.

At Seven Suns on Sukhumvit in Bangkok, the tea connoisseur Han Mei serves cold drip tea, with an elaborate glass set-up which is reminiscent of an old-fashioned chemistry lab, with clean cold water running through the tea a drop at a time until the tea has been infused without any thermal degradation. This health trend is supported by research which indicates that the antioxidant activity of cold infusions of tea is higher than that of traditional hot infusions.[71] In Japan, some tea masters prepare an intense cold infusion of *kabusecha* for a select company of tea connoisseurs. This increasingly popular method is called *mizudashi* 水出し.

The practise of eating *mî:ang* เมี่ยง is, of course, just as old in neighbouring Laos as it is in Thailand. The northern Laotian villagers prepare tea packed in a bamboo internode, and this ancient practice is still observed in neighbouring parts of China and all the way westward into northeastern India. Today, in the context of modern tea, Laos produces good green teas in the north of the country, in the Golden Triangle and in the south on the Bolaven plateau.

Tea Comes to the Malay Peninsula

The tea industry in Malaya is associated with the name of the British businessman John Archibald Russell. In his childhood, Russell had spent three years in Malaya, from March 1890 to January 1893,

71 Elisabetta Damiani, Tiziana Bacchetti, Lucia Padella, Luca Tiano, Patricia Carloni. 2014. 'Antioxidant activity of different white teas: Comparison of hot and cold tea infusions', *Journal of Food Composition and Analysis*, 33 (1): 59–66.

FIGURE 10.17
Kenneth Rimdahl's tea pesto from fresh *assamica* tea leaves

during which period his mother died in a carriage accident. After returning to England and completing his schooling, Russell returned to Malaya for good at the age of sixteen in 1899. In close collaboration with prosperous towkays, who remained his close business associates throughout his life, he went into tin and coal mining and construction. In 1928, Russell acquired a land concession of over two thousand hectares in the Cameron Highlands with the Ceylon tea planter Alexander B. Milne.

With the assistance of Milne's expertise, a portion of this land was converted into a tea garden and planted with *assamica* cultivars from Ceylon. A few years later, the first tea harvest was sold to a Chinese contractor, who manufactured a semi-fermented tea for local sale. Subsequently, Russell bought Milne's share of the company, but he died in 1933. A tea factory was built in 1934, after which the first consignment of tea was shipped to London.[72] The Boh estate established by Russell in the Cameron highlands to this day, and still run by his family, remains the oldest and most famous tea estate on the Malay peninsula.

By the time that tea came to be planted on the Malay peninsula in 1928, the paradigm shift in global tea consumption, discussed in the preceding chapter, had already been fully effectuated. In 1867, still 104,500,000 lbs. out of the 111,000,000 lbs. of the tea reaching Great Britain, representing over 94% of British tea consumption, came from China. Sixty years later, over 342,000,000 lbs. of British annual consumption, which by 1927 had reached 416,000,000 lbs., came from India and Ceylon, and an additional 61,000,000 lbs. came from the Dutch East Indies. In 1928, therefore, over 82% of British tea imports came from India and Ceylon, whereas the Dutch East Indies satisfied over 14.6% of British consumption. Yet in 1929, in the very year that Russell began planting tea in the Cameron highlands and 130 years after the demise of the Dutch

72 Wong Yee Tuan. 2010. 'More than a tea planter: John Archibald Russell and his businesses in Malaya, 1899–1933', *Journal of the Malaysian Branch of the Royal Asiatic Society*, 83 (1): 29–51.

East India Company, a rallying call in the *Malay Mail* evoked the old spirit of Dutch and British commercial rivalry:

> … it would seem this spirit of caution underlies his proposal that the provision of the Merchandise Marks Act of 1926 may be put into operation as regards foreign teas. Obviously it is the Java and Sumatra product which the Empire growers have in mind, as China may be safely disregarded. It may also be conceded that Java and Sumatra teas are not actually menacing the position of the British teas in this market. But, all the same, the imports are creeping up. In 1925 the quantity of tea imported into Great Britain from the Dutch East Indies was 41,000,000 lbs: in 1926 it was 52,000,000, and in 1927 it was, as is indicated above, 61,000,000. In the circumstances it is not surprising that the Indian and Ceylon growers should be keeping a watchful eye on their Dutch competitors.[73]

After the Second World War, British Malaya was transformed into the Malayan Union on the 1st of April 1946 under a British governor in Kuala Lumpur. On the 1st of February 1948, the Union was reformed as the Federation of Malaya, which gained independence on the 31st of August 1957. In 1963, by force of an agreement between the United Kingdom and the Federation of Malaya, the territories of North Borneo, Sarawak and Singapore were joined with the Federation of Malaya to form the country of Malaysia, although Singapore later opted out to become an independent republic on the 9th of August 1965. In Malaysia, from 1985 until 2000, the annual tea output of tea fluctuated at around 5,600 tonnes. After a dip in output around 2005, the tea yield in 2010 suddenly rose to 19,738 tonnes, and Malaysia has since been maintaining roughly this annual level of output.

73 'Tea—Marking growth of the industry: Triumph of the British grower', *Malay Mail*, Thursday 28 February 1929.

Mozambique, Homeland of Yasuke

Vasco da Gama sailed past this portion of the southeastern African littoral in 1498. Decades later, a young Mozambican remembered by the name of Yasuke 弥助 travelled on Portuguese ships all the way to Land of the Rising Sun. In stages, the Portuguese presence increased, and gradually the entire coastal region of southeastern Africa which today makes up the territory of Moçambique became a Portuguese colony, which it remained until 1975. Tea was probably introduced by the Portuguese to the country in the 19th century, at roughly the time that the Portuguese introduced tea to Brazil, the Azores and Madeira. By the 1960s, nearly two dozen tea factories were in operation in the country, and Portuguese entrepreneurs had turned Mozambique into Africa's second largest tea producer after Kenya, with productive plantations in Milange district and at Vila Junqueiro, Socone and Tacuane.

From 1964, the liberation movement *Frente de Libertação de Moçambique* (FRELIMO) fought a guerrilla war against the colonial government. After the *Revolução dos Cravos* 'Carnation Revolution' in Portugal, the Portuguese government acquiesced to Mozambican independence in 1975. Mozambique was promptly plunged into a civil war between the Marxist-Leninist FRELIMO and the anti-communist *Resistência Nacional Moçambicana* (RENAMO). In 1961, Moçambique was well ahead of Malawi in terms of tea production.[74] Even in the 1980s, Mozambique was still Africa's third largest tea producer. The anti-colonial guerrilla movement, the Mozambican civil war (*gerebatur* 1977–1992) as well as ideologically driven attempts by the communists to mastermind the economy ensured that the country would remain amongst the world's least developed.

After the protracted civil war, only five out of the original 21 tea factories were left functioning. Changes in policies since 1995 have helped the tea industry to recover to some extent. In 2005, due to

74 Forrest (1985: 76–77).

drought and management factors, out of a potential tea plantation area of 2,340 hectares only 880 tonnes of tea were produced, where the potential output on that much land could have been well more than triple that amount.[75] In September 2012, the Mozambican Minister of Agriculture, José Condungua Pacheco, visited New Delhi in order to seek Indian assistance for the development of the tea industry. Today the largest Mozambican tea estate lies at Gurué, formerly called Vila Junqueiro.[76]

A Colony on the Cape Becomes South Africa

The first tea trees were brought from the Japanese island of Kyūshū to Batavia in 1687 by Andreas Cleyer and his gardener George Meister. Sixteen tea plants were later brought from Java to the Cape of Good Hope in 1688 by Georg Meister, who planted them in the garden of the Dutch East India Company.[77] In 1728, the Dutch East India Company drew up a plan to set up tea cultivation in the colonies, and a number of tea trees were planted in Java, Ceylon and the Cape of Good Hope.[78] At this time, however, no tea plantations were established. So, this plan had to wait for over a century before it would actually be carried out, and then the tea project would not unfold under the auspices of the Dutch East India Company, which had led a flailing existence ever since the Fourth Anglo-Dutch War (*gerebatur* 1780–1784) and went totally defunct in 1799.

The British invaded South Africa in 1795 and, after the Dutch defeat at the Battle of Muizenberg on the 7th of August 1795, Britain seized the Dutch *Kaapkolonie*, which became the British Cape Colony. In response to discriminatory policies by the British colonial authorities, Cape Dutch Boers undertook the Great Trek, leaving the Cape Colony in the 1830s and 1840s as Voortrekkers and moving deeper into the interior of South Africa. However, the British followed and, after the British Cape Colony annexed the Voortrekker republic of Natalia in May 1843, the British essentially repeated the exercise carried out by the Dutch East India Company in 1728 when they planted tea themselves in 1851 at the Botanical Gardens in Durban. Tea only began to be produced commercially in Natal over two decades later, when plants were imported from Assam in 1877.[79]

South Africa both produces and exports black tea, but the country is a net importer of tea. The imported black tea comes mainly from Malawi, Zimbabwe, Kenya, Sri Lanka and Mozambique. South Africa used to produce about 10,000 tonnes of tea annually, but the restructuring of the South African economy increased the cost of labour in 2003 and reduced tea production to less than 2,000 tonnes in 2004. Senteeko and Ntingwe were the only two tea estates out of an original ten that managed to stay in operation.[80] South African black tea is exported to many countries, including China, the Democratic Republic of Congo and Ghana. South Africa's black tea export market was worth about R20 million a year in the early noughties. In 2011, South Africa exported 2,080 tonnes of black tea and imported approximately 23,358 tonnes. Tea is grown in Kwazulu, West Transvaal, Natal, Zululand and the Transkei.[81]

75 Anonymous. 2006. *Greening the Tea Industry in East Africa: Small Hydropower Scoping Study: Mozambique, 15th March 2006 Final report*. Francheville: Innovation Energie Développement.

76 'Mozambique seeks India's help to develop tea industry', *The Hindu*, 6 September 2012.

77 Meister (1692: 227).

78 van der Chijs (1903: 594–596).

79 J.K. Matheson. 1950. 'Tea', pp. 198–206 in J.K. Matheson and E.W. Bovill, eds., *East African Agriculture: A Short Survey of the Agriculture of Kenya, Uganda, Tanganyika and Zanzibar and Its Principal Products*. London: Geoffrey Cumberlege, Oxford University Press (p. 198).

80 Zeno Apostolides. 2004. 'Tea production in southern Africa', *ICOS*, 2: 826–829.

81 Directorate Marketing. 2012. *A Profile of the South African Black Tea Market Value Chain*. Pretoria: Department of Agriculture, Forestry and Fisheries.

FIGURE 10.18 The East Indiaman *Noord Nieuwland*, a vessel of the Rotterdam chamber of the Dutch East India Company, shown in *Tafelbaai* or Table Bay in 1762 on the way from Rotterdam to Batavia, 71 × 55,8 cm, oil on canvas, William-Fehr-versameling, Iziko Museums of South Africa, Social History Collections, Kasteel die Goeie Hoop, Kaapstad

The Dutch East Indies Become Indonesia

Before the Second World War, India, Ceylon and the Dutch East Indies constituted what Forrest called 'the simple trinity of black tea producing countries'. On the 3rd of April 1941, a year after Germany had occupied the Netherlands and a year before the Japanese would occupy the Dutch East Indies, the Royal Air Force on their way to bomb Germany also 'bombed' occupied Holland. The bombs destined for Holland, however, were 75,000 tea bags which were scattered over a wide area, dropped through the bombers' flare chutes. Each 'bomb' contained 20 grammes of tea and bore an orange, white and blue paper label bearing the Dutch tricolour surrounded by words promising that *Nederland zal herrijzen* 'the Netherlands will rise again', below which the caption read *Uit vrij Nederl.-Indië een groet—Houdt moed!* 'A greeting from the free Dutch East Indies—Chins up!'[82] This would be the last tea to come from the Dutch East Indies.

The tea industry in the Dutch East Indies was shattered during the Japanese occupation, and estate owners returned to find their tea factories wrecked and the tea bushes grown into trees. In the words of Denys Forrest, after independence 'the whole structure of the Netherlands

82 Display at the Verzetsmuseum Amsterdam; 'R.A.F. pilots deliver tea to Dutch', *The Sydney Morning Herald*, Tuesday, 1 July 1841 (p. 6).

FIGURE 10.19
One of the 75,000 tea 'bombs' dropped over Holland by the Royal Air Force on the 3rd of April 1941, each containing 20 grammes of tea and bearing an orange, white and blue paper label bearing the Dutch tricolour surrounded by words promising that *Nederland zal herrijzen* 'the Netherlands will rise again', below which the caption read *Uit vrij Nederl.-Indië een groet—Houdt moed!* 'A greeting from the free Dutch East Indies—Chins up!', collection of the Dutch Resistance Museum, *het Verzetsmuseum*, Amsterdam

East Indies was gradually pounded to pieces and rebuilt as something dramatically different'.[83] Dutch-owned tea estates were expropriated by president Sukarno in 1957 and converted into state-owned companies, whereby many smaller operations were often merged. Because much tea expertise left the country, appreciable tea output and tea exports resumed only in the 1960s.

The ten new large state-run companies continued to use the technologies and machinery left by the Dutch on many estates, and the national tea output dropped gradually from over 80,000 tonnes in 1962 to below 60,000 tonnes in 1972.[84] From 1972 onward, after Suharto had consolidated his control over Indonesia, tea output increased steadily but erratically, first topping 100,000 tonnes in 1981. There was a sharp drop in yield in the year 1982 due to an eruption of the Galunggung volcano east-southeast of Bandung, but tea output topped 150,000 tonnes in 1990, and since then annual yield has fluctuated between 140,000 and 170,000 tonnes.

Today tea is grown not just in Java but also on Sumatra and on the Celebes or *Sulawesi*. The Indonesian Research Institute for Tea and Cin-

83 Forrest (1985: 66–67).
84 Veronika Ratri Kustanti and Theresia Widiyanti. 2007. *Final Report: Research on Supply Chain in the Tea Sector in Indonesia*. Boyolali: The Business Watch Indonesia (pp. 17–26).

chona has in recent years undertaken to disseminate superior tea clones from Gambung in the hope of increasing productivity.[85] For the Lipton brand, Unilever Indonesia has a factory in Cikarang,[86] but other companies such as Sari Husada, Otsuka Indonesia, Aqua Golden Mississippi and Greenfields Indonesia also reportedly produce packed Lipton tea for Unilever. Some Lipton factories in Australia and Vietnam have been closed down and relocated to Indonesia.

In keeping with the pre-war practice, most tea manufactured is still black tea, much of which is produced by the CTC method. Currently, green tea processing factories only belong to smallholders and have low yield. Since fine leaf teas are not produced in any great quantity, tea imports have shown a tendency to increase. In 2002, tea imports reached 3,526 tonnes, an increase of 2,632 tonnes over the previous year. The sudden increase at that time was driven by the opening of many Chinese, Vietnamese and Thai restaurants.[87] By harvest yield, Indonesia ranks behind Vietnam, Turkey and Iran as a tea producer, and the country has not yet greatly exploited the potential for producing finer teas. Most green tea is used domestically in bottled ready-to-drink jasmine tea. However, in recent years both small tea gardens and some large plantations in the lush Javanese highlands have begun to produce organic green teas and oolong teas of ever finer quality.

85 Bambang Sriyadi, Rohayati Suprihatini and Heri Syahrian Khomaeni. 2012. 'The development of high yielding tea clones to increase Indonesian tea production', pp. 299–308 in Chen, Apostolides and Chen (op.cit.).

86 Unilever Indonesia was established at Batavia on the 5th of December 1933 as Lever's Zeepfabrieken N.V under notarial act No. 23 (mr. A.H. van Ophuijsen, approved by the governor general of the Dutch East Indies in letter No. 14 dated the 16th of December 1933, registered No. 302 at the *Raad van Justitie* on the 22nd of December 1933 and published in the *Javaasche Courant* on the 9th of January 1934, additional note No. 3). The company started operation in the same year (Kustanti and Widiyanti 2007: 21).

87 Kustanti and Widiyanti (2007: 15–26).

In Indonesia, the Australian shade tree *Grevillia robusta* silver oak is currently often recommended for use as a shade tree for tea plantations above other species such as *Leucaena leucocephala, Albizzia falcata, Albizzia sumatrana* and *Erythrina subumbrans*. The silver oak is neither an oak tree nor indigenous to Indonesia, or for that matter to the tea homeland, but the Australian tree grows fast, is deep rooted and provides shade all year round.[88] Tea pests in Indonesia include the tea jassid (*Empoasca sp.*), tea mosquito bug (*Helopeltis antonii*), loopers (*Hyposidra talaca, Ectropis bhurmitra*), the tea tortrix (*Homona coffearia*), nettle grubs (*Setora nitens, Parasa lepida*), the shoot roller (*Cydia leucostoma*) and the tea scarlet mite (*Brevipalpus phoenicis*). Fertilisers used in tea plantations include urea (46% nitrogen), ammonium sulphate (21% nitrogen), triple superphosphate (46% P205), muriate of potash (60% K20), potassium sulphate (50% K20) and Kieserite (27% Mg).

From French Indochina to Vietnam

In Vietnam, tea is produced mainly in the northern provinces of Thái Nguyên and Phú Thọ. On a small local scale, some of the indigenous language communities in Tonkin had from time immemorial grown tea for alimentary purposes and for brewing stews and infusions in the ancient tradition of the original tea homeland. Then the French introduced a new tradition of tea manufacture when they established the first commercial tea plantation of 60 hectares in 1890 at Tình Cương in Phú Thọ province, and 35,000 kg of tea were exported from French Indochina in the year 1898, and by 1913 the output of exported tea reached 371,000 kg.[89]

88 Atik Dharmadi. 2004. 'The contributions of research and its impact on tea production in Indonesia', *ICOS*, 2: 55–58.

89 M. Guillaume. 1924. 'Le commerce du thé en Indochine: Préparation et utilisation de la production de indigènes', pp. 291–296 in Rutgers (op.cit.).

In 1914, Auguste Chevalier, a botanist at the *Muséum national d'histoire naturelle* in Paris, travelled to the tea plantations at Java and Ceylon and felt that the French had to catch up with the Dutch and the British. From 1917 to 1918, he set up the *École supérieure de l'agriculture et de sylviculture* at Hà Nội with four research stations. Two of these, at Phú Hộ and at Pleiku (Pờ-lây-cu), were dedicated to the improvement of tea cultivation. Although wild tea trees are widespread in the jungles of northern Vietnam and northern Laos, Chevalier imported tea seedlings from Ceylon and the Dutch East Indies along with British tea processing machinery.[90] From a record tea export of 861,000 kg in 1917, tea export from Indochina collapsed after the Great Depression, dropping to 156,000 kg in 1921.

There were still only a few tiny French plantations, but with the use of new mechanised procedures, the tea export from Indochina reached 878,000 kg by 1923. At the time, the French were keen on the idea of mechanised tea manufacture in the Dutch and English mode. In 1924, Robert du Pasquier of the Phú Thọ experimental tea station recorded how the traditional artisanal tea manufacture of the Vietnamese was deemed by the French to be *des méthodes primitives qui ne présentent pas grand intérêt* 'primitive methods which are of no great interest'.[91] By 1945, tea plantations in Vietnam covered roughly 13,585 hectares, and annual production was at 6,000 tonnes.

The country as a whole suffered greatly during the First Indochina War (*gerebatur* 1945–1954) and the Second Indochina War (*gerebatur* 1955–1975). After the defeat of the United States of America, North and South Vietnam were united into a single country. However, the economy stagnated because the communist government squelched private enterprise and attempted to manhandle the economy in a top-down fashion. With the first reforms in 1986, the economy began to be liberalised in order to allow a market economy to emerge once again. Subsequent reforms were enacted in 1987, 1988, 1990 and 1992. Tea output grew steadily from 18,000 tonnes in 1975 to 28,000 tonnes in 1985. The tea exported was principally black tea destined for the Soviet Union.

After the liberalisation of the Vietnamese economy, the tea industry began to flourish. By 1995, the tea yield exceeded 40,000 tonnes. Annual yield nearly reached 70,000 tonnes in 2000. Vietnamese tea output exceeded 132,000 tonnes in 2005, and annual tea production was nearly at 200,000 tonnes in 2010. Today tea plantations cover roughly 130,000 hectares across 34 of Vietnam's 58 provinces, and the tea industry employs over 400,000 people. As a tea producer, Vietnam today ranks fifth in the world, behind China, India, Kenya and Sri Lanka.

After the collapse of the Soviet Union in 1991, the Vietnamese tea industry diversified and shifted their emphasis to exquisite green teas and even oolongs. Two thirds of the production today is green tea, but excellent oolongs and black teas are also manufactured. Two Vietnamese scented teas are lotus flower tea or *trà sen* and jasmine flower or *trà lài*. The lotus tea is made from high-quality green tea which is packed with lotus blossoms for one or two days until the tea absorbs the delicate fragrance. In some varieties the lotus petals are left in the tea. The production of jasmine tea follows an analogous procedure.[92]

90 J. Trochain. 1933. 'La production du thé et les améliorations apportées à la culture du théier en Indochine', *Revue de Botanique Appliquée et d'Agriculture Coloniale*, 13 (145): 613–650.

91 Robert du Pasquier. 1924. 'Renseignements sur les théiers d'Indochine et sur leur culture', pp. 297–302 in Rutgers (op.cit.). Olivier Tessier authored an attempt at a contrite 'déconstruction du discours colonial', which exploits the development of commercial tea plantations in Indochina as its pivot (Olivier Tessier. 2013. 'Les faux-semblants de la « révolution du thé » (1920–1945) dans la province de Phú Thọ? (Tonkin)', *Annales—Histoire, Sciences Sociales*, 68 (1): 169–205).

92 Do-Van Ngoc. 2012. 'Breeding of the tea plant (*Camellia sinensis*) in Vietnam', pp. 241–262 in Chen, Apostolides and Chen (op.cit.).

FIGURE 10.20
Armand-Emmanuel de Vignerot du Plessis, duc de Richelieu, oil on canvas, 33.3×106.7 cm, painted by Thomas Lawrence in 1818, the Royal Collection

Georgia and the Russian Empire

In 1770, Catherine the Great sent the Georgian king Irakli II a samovar and a tea service. Three decades later, in 1800, Russia annexed what today is eastern Georgia and took over Mingrelia in 1803, reducing both of these areas to the status of a governorate within the Russian empire. In June 1810, the Russian fleet captured the Black Sea port of Sukhumi[93] after the Russian government had recognised Sefer Bey as the hereditary prince, and then they drove the Ottoman Turks from Abkhazia. At this time the western regions of Georgia along the Black Sea remained subjugated to the Ottoman empire and were only integrated into Russia in 1878 after the Russo-Turkish Wars of 1828–1829 and 1877–1878. Like the Dutch and the English, the Russians dreamt of ending their dependence on Chinese tea.

In 1817, tea bushes from China were planted in the Imperial Taurean Governorate Botanical Garden (Императорскій таврическій казенный ботаническій садъ) at Nikita on the Crimea by the command of Armand Emmanuel de Vignerot du Plessis, duc de Richelieu, who was the governor general at Odessa from 1803 to 1814, but these tea bushes did not thrive. In 1833, the next governor general at the Black Sea port of Odessa, prince Mikhail Semënovič Vorontsov, once again ordered several dozen tea bushes from China. Nikolaus Ernst Bartholomäus Anhorn von Hartwiss, the dir-

93 The city of Sukhumi is known as Aҟəa [aq'ʷa] in Abkhaz and as Sokhumi სოხუმი [sɔxumi] in Georgian.

FIGURE 10.21
Mikhail Semënovič Vorontsov, as painted by George Dawe, Military Gallery of the Winter Palace, St. Petersburg

ector of the Nikitskij̯ botanical garden from 1827 to 1860, studied these trees, which first bore fruit in the Crimea only in 1843. Consequently, Anhorn von Hartwiss recommended that tea would thrive better in Abkhazia and Mingrelia.

In 1847, prince Mikhail Semënovič Vorontsov, who since 1844 had been the governor general of the Caucasus, ordered tea bushes brought from the Crimea, and in 1848 these tea saplings were planted in the Sukhumi botanical garden and also near Ozurgeti ოზურგეთი [ɔzurgɛtʰi] on the lands of the Georgian prince Gurieli გურიელი [guriɛli] in what is now the province of Guria in Georgia.[94] In the 1850s, upon the advice of the English gardener Jacob Marr at Ozurgeti, prince Mikheil Eristavi მიხეილ ერისთავი [mixɛil ɛristʰɑvi] transplanted some of these tea plants to his land at Goraberezhouli გორაბერეჟოული [gɔrabɛrɛʒɔuli] in Chokhat'auri ჩოხატაური [tʃʰɔxɑt'ɑuri], where he experimentally made tea himself from the leaves of his tea bushes for several years, beginning in 1861.

Some of the tea plants were later acquired by prince Dadiani დადიანი [dɑdiɑni], who grew them at Zugdidi ზუგდიდი [zugdidi]. Like Dadiani, a few other horticulturalists in Mingrelia and Guria began to grow tea plants as exotic ornamentals. The last of Vorontsov's original tea plants died in the 1860s, although some bushes descended from these seem to have survived at least until the end of the 19th century.[95] Meanwhile the Sukhumi bo-

94 Бахтадзе (1961).

95 Князъ Владиславъ Ивановичъ Масальскій. 1900. « Чайное дѣло на Кавказѣ » (Читано въ Отдѣленіи Статистики Императорскаго Русскаго Географическаго Общества 22 декабря 1899 г.), *Извѣстія Императорскаго Русскаго Географическаго Обще-*

tanical garden was ravaged by marauding Ottoman Turks between 1853 and 1856, and by 1870 only 18 tea plants survived, and all but one of these tea bushes perished during the ravages of the Russo-Turkish War of 1877–1878.

In 1893, the entrepreneur Konstantin Semënovič Popov, scion of a notable Russian family trading in tea since 1842, established the empire's first commercial tea gardens in the Caucasus near the Georgian town of Batumi ბათუმი [bɑtʰumi] on about 300 hectares of land which he had acquired the previous year for this purpose at Salibauri სალიბაური [sɑlibɑuri], K'ap'reshumi კაპრეშუმი [k'ɑp'rɛʃumi] and Chakvi ჩაქვი [tʃʰɑkʰvi].[96] He planted 155 hectares with 15,000 tea plants and several hundred kilogrammes of tea seeds which he had imported from China along with eleven Chinese tea curers on three-year labour contracts. These Chinese tea curers manned the plantation and instructed the local personnel.

The most prominent of the Chinese tea curers is remembered as *Lau Džon Džau* from the province of Nìngzhōu 寧州, which used to straddle the territories of what today are Yúnnán and Guìzhōu. When Lau's term of employment in Popov's service was extended, he went on home leave to China in 1896, escorting his fellow tea curers back to China, but with the order to return with a fresh batch of tea curers. Lau dutifully returned to Batumi in May 1897 with twelve new Chinese tea curers, but also accompanied by his mother, wife, sister and two sons.[97] Later Popov brought tea plants from India and Ceylon, and in 1896 he imported British tea machinery for withering, firing, sorting and packing, and his first tea factory began producing tea in 1897.[98]

Popov won a gold medal for his Georgian tea at the 1900 Paris tea exhibition, whereas in Russia Lau was awarded a medal in the third rank of the order of St. Stanislav in 1909. Other entrepreneurs also began to set up tea plantations in Adjara and Guria, but tea production effectively collapsed at the outbreak of the Russian revolution in 1917. Although a multi-party form of government was set up in 1918 under the leadership of the Social Democratic Party of Georgia in the newly established Democratic Republic of Georgia, this Menshevik government remained at war until they were defeated by the Bolsheviks, who in 1922 established a one-party dictatorship in a newly established Georgian Soviet Socialist Republic within the Soviet Union.

Lau continued to tend the tea gardens at Batumi throughout the chaos of the revolution, counter-revolution and civil strife in Georgia, and in 1924 the Soviet government decorated Lau with the order of the Red Banner of Labour. In 1924, tea plants were taken from Georgia across the mountains to the region of Rize in Turkey. The tea industry was reorganised along Soviet guidelines in 1926 under the auspices of the state enterprise *Čai̯ Gruzii̯a* « Чай Грузия » 'Georgia Tea'. Only in Soviet times did tea production begin to yield a commercially significant output, first in Georgia, then in Azerbaijan and then in the Krasnodar region. These developments were driven by the Stalinist campaign against alcohol consumption and a desire to be independent of imported tea. In 1928, the first *čaeuboročnai̯a mašina* чаеубороч-

ства, Томъ XXXVI. 1900. Санкт-Петербург: типографія В. Безобразова и комп. (стр. 218–226).

96 In older Russian sources this site is called Чаква *Čakva*.

97 Baxtadze (1961) recorded the name as Лау Джон Джау *Lau Džon Džau*, and Savel'eva (2013) writes the name as Лау Чженьчжау *Lau Čžen'čžau*. One of his sons studied at the Physical-mathematical faculty in St. Petersburg and later married a Russian girl. The other son, whose name is recorded as Лю Вэйчжоу *Lju Vèi̯čžou*, married a Georgian lady, who bore him three daughters at Batumi (Елена Савельева. 2013. « Неоценимые заслуги в развитии чайной культуры … », *Kitai-Journal*, 17 June 2013 ⟨http://www.kitai-journal.ru/chay/92-neocenimye-zaslugi-v-razvitii-chaynoy-kultury.html⟩).

98 И.В. Трусовъ « О чайных плантациях на Кавказѣ, принадлежащихъ Константину Попову и дѣятельность его », *Чайный Вѣстникъ*, 1 (октябрь 1898); Князъ Владиславъ Ивановичъ Масальскій. 1899. *Чайная и другие южные культуры в западном Закавказье*. Санкт-Петербургъ: тип. Спб. градоначальства; П. Линде. « Культура чая в Кутаисской губерніи », *Чайный Вѣстникъ*, 38 (июля 1899).

ная машина 'mechanised tea plucking machine' was developed by I.O. Sadovskiĭ and first used in the Georgian Soviet Socialist Republic.[99]

The automated harvesting machinery, later used in the British tea industry in Africa and perfected in Japan, had its inspiration and its origins in the Georgian tea harvesting equipment developed in Soviet times.[100] The development of the riding-type tea harvester machine began in Japan in 1961. In the beginning, these Japanese harvesters in 1962 first assumed the guise of tractor-style riding-machines. To alleviate the problem of soil treading stress, a crawler-style harvester was developed in Japan from 1968 through to 1969, yielding the prototype of today's machines. The highly advanced harvesters seen in Japan today, which set the cutting-edge trend, therefore had their origins and found their initial inspiration in Soviet Georgia.[101]

From 1929, the tea farms were reorganised as collective farms called sovkhoz and kolkhoz, Russian acronyms respectively for *sovetskoe xozi̯ai̯stvo* советское хозяйство 'Soviet farm' and *kollektivnoe xozi̯ai̯stvo* коллективное хозяйство 'collective farm'. By 1940, the area of Georgian tea gardens had reached 47,000 hectares, and 37 new tea factories had been built. Initially tea production remained modest in scale. Then in the 1970s, the area of Soviet tea plantations was suddenly increased, and the Soviet Union even began to export tea to Warsaw Pact nations. Yet as soon as this ambitious project of expansion had been completed at the end of the 1970s, standards began to plummet due to government inefficiency, and remedial measures had to be undertaken.

In 1983, Georgian tea production topped 143,000 tonnes of tea produced on 80,000 hectares of land, and by 1985 the area under cultivation reached 145,000 hectares, and the number of tea factories reached 76. Tea represented 18% of Georgian agricultural output, and most of the tea was exported to other countries of the former Soviet Union. One third of Georgian tea was green tea and two thirds was black tea, which was graded using the British Indian nomenclature and classificatory schema. Of the black tea, 45% was orange pekoe, pekoe and pekoe souchong, whereas 44% was broken orange pekoe. The remainder were fannings and dust, which was exported to the West for use in tea bags.[102] Georgia tea exports were at their peak in 1984. Out of the 26,271 tonnes of tea exported that year, 5,719 tonnes went to Mongolia, 5,250 tonnes to Poland, 5,500 tonnes to England and 6,000 to the Netherlands. Georgian tea output was at times in the 20th century often close behind that of Turkey.

Tea exports dropped back to one ninth of this level by 1991, and by the time that the Soviet Union collapsed later that year tea production completely stagnated. The market for Georgian tea in Russia and the other former Soviet republics vanished almost overnight, and between 1991 and 1992 the work at tea plantations and in the tea factories in Georgia, which employed over 500,000 people, ground to a halt. In 2002, Georgian tea production was at 24,000 tonnes, and for some years the annual exports dropped to below 1,000 tonnes. Some of the Georgian tea plantations have survived in the west of the country, but only ten tea factories are still in operation today. The total output has continued to fluctuate between 20,000 and 25,000 tonnes.

In the wake of the Abkhaz-Georgia war (*gerebatur* 1992–1993), Georgian tea was put under embargo in Russia. Today Georgian tea is exported to Turkmenistan, Kazakhstan, Kyrgyzstan, Poland, Germany and the United States. Nowadays, an output that fluctuates around 2,000 tonnes of tea is exported from Georgia annually, notwithstanding the more than fifteen million dollars that the Georgian government has continued to invest in rehabilitating the tea industry since 1997. Today some

99 Ukers (1935, Vol. 1, p. 463); Бахтадзе (1961). Sadovskiĭ registered his tea harvester at the Soviet patent office on the 19th of July 1930 under patent No. 73527.

100 Forrest (1985).

101 Satoshi Chougahara. 2010. 'A mechanised tea cultivation system in Kagoshima, Japan', *ICOS*, 4, PR-S-07.

102 Forrest (1985: 150–151).

7,000 hectares of privatised tea gardens yield tea, but 16,582 hectares of former tea land still languish under government control. Much land formerly under tea cultivation has now turned to other crops, such as persimmons, nuts and bay leaves. Tea is still produced in Adjara, Mingrelia, Svanetia, Guria and, in an inconsiderable quantity, also in Imereti.[103]

Tea is also grown in Russia, although the area in question only first became part of Russia in 1864. Sochi and the surrounding Black Sea littoral area originally formed the homeland of the Ubykh people, but the Ubykh fled to the Ottoman empire in 1864 during the Russian conquest of the northwestern Caucasus under tsar Alexander II (*imperabat* 1855–1881). Numerous Circassians, whose homeland lies in today's Krasnodar region, and many Abaza were slaughtered or expelled from the area during this campaign, and many Abkhaz were displaced. In these newly acquired territories, the coastal area between Adler to Tuapse was identified as suitable for tea cultivation in 1893, both in terms of climate and soil, by Ivan Nikolaevič Klingen, including the region around Sochi.

The first tea saplings from the Sukhumi botanical garden were transplanted to the garden of Nikolai̯ Nikolaevič Mamontov at Villa Vera in Sochi in 1878, but the tea plants did not survive the winter.[104] In 1884, the same Mamontov garden hosted tea saplings from Hànkǒu 漢口, but these met with the same fate in the winter. Then the gardener Rheingold Johannovič Garbe and his young assistant Roman Karlovič Skrivanik managed to keep tea seedlings from the Sukhumi botanical garden alive here from 1888 until 1893, when they too froze to death.[105] Meanwhile, a few tea trees were maintained in private gardens by some horticulturalists in Sochi.

Finally, in 1900, a Russian peasant named Iuda Antonovič Košman (Иуда Антонович Кошман) settled in the village of Solox-Aul (Солох-Аул), some 25 km north of Sochi, where the following year he planted tea saplings from Chakvi. He successfully cultivated tea at Solox-Aul, at an elevation of 220 metres and at a distance of 15 km from the shore of the Black Sea. From 800 bushes he produced 50 kg of tea, which he sold locally for one rouble per *funt* (roughly 400 g). After Košman's success at a local fair in 1910, small tea plantations were also established that year at Učdere, Kazačin Brod and Tret'i̯a Rota.

After the revolution, Košman continued to produce tea until his death in 1935, allegedly at the ripe old age of 97, whilst Soviet government officials and tea experts took an active interest in tea production in the area around Sochi from 1925 to 1938. After collectivisation, thirteen years of Soviet government research and effort yielded the first 27 kg of tea from the Sochi region in 1938. Although the Russian government harvest amounted to significantly less than what the peasant Košman had single-handedly produced annually for many years on his private plot of just 1,350 m², this fruit of socialist labour was speedily dispatched to the Moscow tea processing plant, where the tea was packaged for the Soviet market bearing the label *Krasnodar Čai̯* « Краснодар чай ». The following year the kolkhoz named *Krasnyi̯ Putilovec* « Красный Путиловец » 'red tractor',[106] opened up its own tea processing plant in order to process these bountiful yields.

In 1940, at the outbreak of the Second World War, the area under tea cultivation in the Krasnodar region reached 500 hectares, and at Adler a

103 Based on official statistics of the Georgian government, as generously provided to me on the 12th of June 2014 by Irakli Hurtsidze (Ираклий Хурцидзе) of the Georgian embassy in Bern.

104 The villa is located at Курортный проспект 32 in Sochi (*Прогулочные маршруты по Сочи: Маршрут № 3—По Курортному проспекту: От Ривьерского до Верещагинского моста*) ⟨http://you2way.ru/russia/96-progulochnye-marshruty-po-sochi?showall=1&limitstart=⟩.

105 Галина Александровна Солтани. 2014. 'История создания дендропарка «Южные Культуры» (персоны и события)', *Hortus Botanicus*, 9: 2–15.

106 The Путиловец *Putilovec* was a Soviet tractor model.

sovkhoz named *Krasnodar Čai̯* « Краснодар чай » was founded that year. By the 1960s, a total of 2,340 hectares of tea gardens in the Krasnodar region had been incorporated into the local sovkhoz.[107] Soviet tea experts had always deemed the Krasnodar region less suitable for tea production than Georgia. Yet, as if the spirit of the peasant Košman lives on in this area, small holder tea entrepreneurs with little means but endowed with much know-how and great dedication have in recent years been producing rare and finely handcrafted green and white leaf teas blessed with the savours and fragrance of a very exclusive *goût de terroir*.

Iran and the Persian Gulf

As a young man, Muḥammad Mīrzā Kāshif al-Salṭanah (1865–1929) محمد میرزا کاشف السلطنه studied at the Sorbonne whilst working as a junior secretary at the Iranian embassy in Paris, where he became a freemason. Kāshif al-Salṭanah returned to Iran in 1889 and worked as an interpreter at the Ministry of Foreign Affairs and was later appointed governor of a district in Khorāsān. In 1894, he fled into exile in Russia and then to the Ottoman empire after incurring the displeasure of Nāṣer-al-Din Shāh Qājār ناصرالدین شاه قاجار. After the assassination of the shāh in 1896, Kāshif al-Salṭanah was appointed Iranian consul general to the British Raj.

He arrived in Bombay in November 1898, and subsequently travelled widely in India, where he took an interest in the British tea industry. He returned to Iran in July 1900 with 3,000 Assamese tea seedlings, which he planted at Lāhijān on the Caspian Sea. He was later sent to Paris again, but he lived the rest of his life mostly in Iran, where he worked for the government and devoted himself primarily to tea, establishing the Iranian tea industry.[108] Today Iran produces about 60,000 tonnes of full bodied black tea a year in the Elburz, most of which is consumed domestically.

After the Second World War, up to 2,000 tonnes of tea used to be exported annually, principally to the United Kingdom, but this soon ceased because domestic demand was greater than domestic production, and Iran imported 6,167 tonnes of tea in the period 1970 to 1971, which had risen to an estimated 22,000 tonnes of imported tea in 1983, principally from India and Ceylon directly as well as via the states on the Persian Gulf.[109]

Tea was widely enjoyed in Persia long before the country began to produce its own tea, however. The sedate and congenial atmosphere of the Persian *čaikhāna* چای خانه or *čā-ye khatāi khāna* چای ختای خانه, where men in the 17th century would sit together, play chess and socialise, is told in Chapter Five. Today tea is prepared and served with Russian samovars, which became popular in Persia from the 1820s, and is drunk out of tulip-shaped glasses called *estakān* استکان, from Russian *stakan* стакан 'glass'.

Already in the mid 1980s, both Qatar, Kuwait, Bahrain and the United Arab Emirates were importing more tea than they consumed in their role as entrepôts for the other countries on the Arabian peninsula and elsewhere in the Near East.[110] Tea consumption is traditionally high in these countries, where the potation of alcohol is religiously proscribed for most. In recent years, the leading role in the Persian Gulf has been taken over by Dubai.

In 2009, the Dubai Tea Trading Centre transacted 7.5 million kilogrammes of tea from multiple countries, and in 2010 the volume had risen in just one year to 10.6 million kilogrammes. Today Dubai is the second largest export destination for both Indian and Sri Lankan tea, and Dubai acts as a storage entrepôt for tea produced in Kenya, India, Sri Lanka, Indonesia, Malawi, Rwanda, Tanzania, Zimbabwe, Ethiopia, Vietnam, Nepal, China

107 Бахтадзе (1961).
108 Ranin Kazemi. 2012. 'Kāšef-al-Salṭana', *Encyclopaedia Iranica*, XV (6): 653–656.
109 Forrest (1985: 98–99).
110 Forrest (1985: 158–159).

FIGURE 10.22
Persian tea is drunk from tulip-shaped glasses called استکان *estakān*, as in Azerbaijan and Turkey

and Iran.[111] A well made green loose leaf tea from Ceylon is currently distributed by Alokozay, a Dubai based firm. The Gulf has the volume, and hopefully more sophisticated tea knowledge will become widespread there as well.

The Rise and Fall and Rise and Fall of Azeri Tea

At the Treaty of Gulistan on the 24th of October 1813, most Persian territories west of the Caspian, including Dagestan, much of Georgia and most of today's Azerbaijan, were ceded to Russia. By the Treaty of Turkmenchai on the 10th of February 1828, other parts of today's southern Azerbaijan were incorporated into the Russian empire. The horticulturalist M.O. Novosëlov planted tea in the Lənkəran region in southern Azerbaijan between 1896 and 1898. Within a few years, experimental plots had been established with almost 2,000 tea plants, which from 1902 yielded some modest tea production. Tea production began to flourish, but suddenly the fledgling tea industry in Azerbaijan became a casualty of the Russian revolution and its aftermath.

On the 28th of May 1918, the establishment of the Azerbaijan Democratic Republic was declared at Gəncə, which effectively served as the capital of the new polity until September, when Baku became the seat of the new government for two years. The Red Army entered Baku on the 30th of April 1920, and by the end of May the imperialist Russian Bolshevik forces had squelched Azeri independence. The Azeri tea industry and the tea plants languished and were forgotten for a time.

Then between 1928 and 1929, under Soviet administration, tea plantations were established in Lənkəran, Astara and Masallı in southern Azerbaijan as well as in the north of the country in the Zaqatala region, but not all areas proved suitable for tea because of the vast fluctuations in seasonal temperatures. In 1934, the first tea plantation was readied for the industrial production of tea on a collective farm or kolkhoz named *Pravda* « Правда » 'truth' at the village of Girdanı in the Lənkəran region. In 1937, the state enterprise *Azerbai̯džan Čai̯* « Азербайджан Чай » was estab-

111 'Dubai Tea Trading Centre transacts record volumes in 2010', *Albawaba Business*, 6 March 2011.

FIGURE 10.23 A *kahvehane* or coffee house in Tophane, painted by Megerdich Jivanian (1848–1906), oil on canvas, 96 × 113 cm, Pera Museum

lished. The commercial production of tea began in 1938, when the first tea factory was taken into operation in Lənkəran and the first packets of Azeri tea were released on the Soviet market. Azeri tea production remained modest through the 1960s,[112] but during the 1970s and 1980s over 36,000 hectares came to be under tea cultivation, and fifteen tea factories were built. Production peaked in the mid 1980s, with the output for 1988 exceeding 38,500 tonnes.

After the collapse of the Soviet Union, Azerbaijan declared the restoration of independence on the 30th of August 1991. Suddenly, the Azeri economy became the direct beneficiary of the country's plentiful oil and natural gas reserves, and the Azeri tea industry promptly went into sharp decline. The output in 1992, which was the first tea harvest just months after independence, plummeted to 9,400 tonnes, and by 1995 tea production had dropped to just 1,200 tonnes.[113] Azerbaijan today consumes in excess of 10,000 tonnes of tea annually, and Azeris drink tea from tulip-shaped glasses in the style of their linguistic confrères in the Republic of Turkey. Yet less than 5% of the tea drunk in Azerbaijan is produced domestically.[114]

112 Бахтадзе (1961).

113 Владимир Михайлович Семёнов. 2002. *Чайные рецепты и чайные секреты*. Москва: Олма-Пресс (стр. 110).

114 I also cordially thank Hamid Nasibov of the Embassy of Azerbaijan in Bern.

FIGURE 10.24
Turkish tea is often served with *lokum* or Turkish delight and sweetened with sugar

Turkey Converts from Coffee to Tea

Turks are amongst the most avid per capita consumers of tea in the world. Based on a triennial average for the three years from 2008 to 2010, the world's highest annual per capita tea consumer was Kuwait at 2.86 kg, followed by Ireland at 2.31 kg, then Qatar at 2.04 kg, Turkey at 2.02 kg, Afghanistan at 2.01 kg and the United Kingdom 1.97 kg.[115] By comparison, China consumed only 350 grammes of tea per person annually. In the old days, as recounted in Chapter Seven, Turkey used to be the coffee country *par excellence*, and the Turkish way of preparing coffee quickly became emblematic in the West.

However, when the Ottoman empire collapsed in 1923, the Turks lost the port of Mocha المخا *al-Mukhā* in Yemen, and the price of coffee rose steeply. Kemal Atatürk, the founder and first president of the Republic of Turkey, encouraged the drinking of tea. During the Ottoman period, tea was purportedly introduced to the town of Bursa from China twice, both times unsuccessfully, in 1888 and 1892.[116] In 1924, the first tea plants were brought from Batumi in Georgia to Rize, which lies between the Pontic mountains and the Black Sea. The government nursery Merkez Çay Fidanlığı distributed 50,000 seedlings to local farmers. To encourage the aspiring tea planters in Rize, the government waived their land tax for a period of ten years.[117] These steps led to the successful commercial production of tea from 1937 and to tea promptly overtaking coffee in Turkey from 1938.

When tea cultivation was started in Turkey, the initial aim was to meet domestic demand, which at the time had yet to be stimulated. By 1965, Turkey was self-sufficient in terms of tea production, and today Turkey ranks as the world's sixth largest tea producer. Rotorvane and CTC processing characterised tea production in Turkey from the outset, and the tea industry in Turkey grew rapidly from 1950 to 1965. The company Çaykur 'the tea

115 Chen and Chen (2012) in Chen, Apostolides and Chen (op.cit., p. 2).

116 Sezai Ercişli. 2012. 'The tea industry and improvements in Turkey', pp. 309–321 in Chen, Apostolides and Chen (op.cit., p. 310).

117 Mushtaq Ahmed Klasra, Khalid Mahmood Khawar and Muhammed Aasim. 2007. 'History of tea production and marketing in Turkey', *International Journal of Agriculture and Biology*, 9 (3): 523–529.

FIGURE 10.25
Roadside tea from a samovar on the way from Kars to Erzurum in eastern Anatolia

board', Turkey's largest producer, founded in 1971, has been operational since 1973 and exercised a monopoly on Turkish tea until 1984. Tea production amounted to an annual yield of just 138,000 tonnes in early 1985 but exceeded 200,000 tonnes by 2005 and employed a quarter of a million families. In 1993, the government forbade the opening up of new tea plantations, and since then the trend has been to increase yield per hectare.

In 2004, Çaykur began to produce green tea, which it markets in the varieties *turkuaz, kardelen I, kardelen II, antik yeşil I, antik yeşil II* and powdered green tea. There are over 200,000 small tea farmers in the eastern Black Sea littoral region. Output has fluctuated greatly in the past few decades, with lean harvests of just 101,900 tonnes in 1995 and 155,000 tonnes in 2003 and bountiful harvests of 199,500 tonnes in 1999 and 205,117 tonnes

in 2005.[118] Turkey's tea output has in recent years consistently exceeded 200,000 tonnes a year, over half of which is consumed on the domestic market.[119] Turkish tea is exported to the many countries of the European Union and former Soviet Union, and to India and the United States. Turkish tea is mainly black tea, served strong in a tulip-shaped glass on a tiny white saucer with a tiny spoon. Most Turkish tea drinkers take sugar in their tea.

Zimbabwe, Malawi and Zambia

The oldest tea plantations in the British Central Africa Protectorate were established by tea planters from the Cape Colony, first at Blantyre in 1887.[120] These later led to a commercially viable tea growing venture at Mlanje in 1891.[121] In 1907, the Central Africa Protectorate was renamed the British protectorate of Nyasaland. By the 1920s, British planters were running tea estates there. In 1953, Nyasaland became subsumed in a British colonial construct known as the Federation of Rhodesia and Nyasaland, consisting of the two protectorates of Nyasaland and Northern Rhodesia and the self-governing colony of Southern Rhodesia. Tea has been grown in Southern Rhodesia since 1920.

In 1964, Nyasaland became independent as the Republic of Malawi, whilst Northern Rhodesia became the Republic of Zambia, and Southern Rhodesia unilaterally declared itself the Republic of Rhodesia in 1965. Rhodesia was soon plagued by guerrilla movements led by Joshua Nkomo and Robert Mugabe. In light of the untenable situation, the Rhodesian House of Assembly on the 11th of December 1979 unanimously voted to revert to British colonial rule. Britain took control in order to exercise an interim mandate. In 1980, the country became independent once again under the new name Zimbabwe. Since independence, human rights abuses have been rampant, and the government perpetrated expropriations and enacted other discriminatory measures against Zimbabweans of European ancestry. Tea production in Zimbabwe currently fluctuates around 9,000 tonnes annually, and the main growing regions are the Honde Valley and around Chipinge in the east.

Malawi produces over 40,000 tonnes of tea annually, much of which is CTC tea. However, Malawi has also begun to produce its own green and white teas, including a Malawi whole leaf white peony and Malawi Antlers white tea made from the velvety stems of finely plucked shoots, as well as fine hand rolled black teas and even a mild Malawi Pǔ'ěr. Malawi has in good years produced up to 47,000 tonnes of tea, almost all of which is destined for export. Malawi is Africa's second largest tea producer after Kenya. An autobiographical account of an Englishman who went into tea in Nyasaland in 1960, documenting the period leading up to independence from the perspective of the tea estate, is provided by Roy Moxham.[122] Most of Malawi's forty-odd tea plantations are owned by British-based companies, and, as in the case of Tanzania, most of Malawi's production is destined for the United Kingdom. Small-scale tea holders constitute a significant minority of the tea producers, although the proportion of small holders in Malawi is not as great as in Kenya.

In Zambia, a tea plantation was set up at Kawambwa in 1969, which in 1974 was run by the Rural Development Corporation. The plantation

118 Hilal Şahin, Aybegüm Akdoğan, Cüneyt Dinçer, Ayhan Topuz and Feramuz Özdemir. 2007. 'Phenolic composition of different Turkish green teas', *ICOS*, 3, HB-P-005; Ender Sinan Poyrazoğlu. 2007. 'The trends of tea marketing and tea industry in Turkey', *ICOS*, 3, JS-03.

119 Ender Sinan Poyrazoğlu and Nevxat Artık. 2001. 'The present and the future of the tea industry of Turkey', *ICOS*, 1 (IV): 63–66.

120 A failed attempt had previously been undertaken at Blantyre in 1878 by the Scotsman Jonathan Duncan, whose tea plants died (Ukers 1935, Vol. I, p. 211).

121 Kamunya, Wachira, Pathak, Muoki and Sharma (2012: 178).

122 Moxham (2003, 2009).

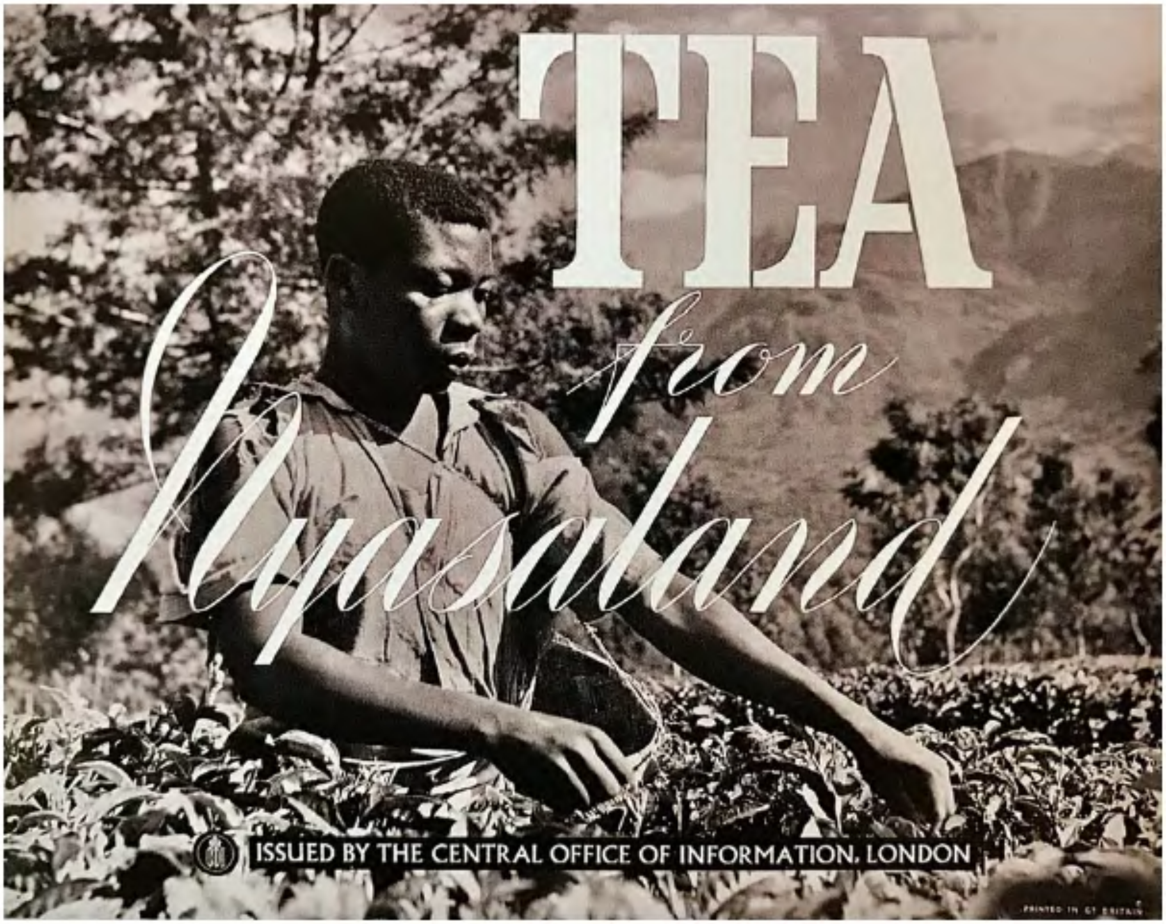

FIGURE 10.26 *Tea from Nyasaland*, printed by the Central Office of Information in London in 1948, Library of Congress (Lot 3577, Box 3 of 4, cover)

expanded to 300 hectares by the mid 1980s, and small holders also began to produce tea. Currently the tea yield in Zambia is at 900 tonnes annually, much of which is exported to Kenya, South Africa and the Democratic Republic of the Congo.[123]

From a Colony under Wilhelm II to Tanzania

Tea was first planted in German East Africa in 1902 by German settlers in Amani and Rungwe districts and in East Usambaras. After the First World War, the League of Nations in 1922 granted Britain the mandate to most of German East Africa, which thus became the British territory of Tanganyika. However, the mandate over the northwestern portion of German East Africa was in 1924 granted by the League of Nations to Belgium, which had since 1916 already occupied this area, known as Rwanda-Urundi. At the same time, the 1,000 km^2 Kionga triangle on the Indian Ocean coast, south of the Rowuma river, had in 1916 been taken from Germany by the Portuguese and added to Mozambique.

Commercial tea production began only after the First World War, when in 1926 tea was planted in the north at Ambangulu in West Usambaras, at Musekera in Rungwe and at Njombe. Later tea plantations were also established in the south at

123 Forrest (1985: 92–93); Nick Hall. 2000. *The Tea Industry*. New Delhi: Woodhead Publishing (Ch. 5, pp. 40–41).

Mufindi and Tukuyu.[124] The tea seeds and seedlings first came from Assam and Nyasaland. In 1934, Tanganyika produced just 23 tonnes of tea. By 1945, the surface area under cultivation had risen to 2,723 hectares, and by 1960 to 7,336 hectares, with a yield of 3,722 tonnes of tea.

In December 1961, the territory of Tanganyika became the independent Republic of Tanganyika. In 1964, Tanganyika incorporated the sultanate of Zanzibar and renamed itself Tanzania. In 1967, under president Julius Nyerere, banks and industries were nationalised, but British tea estates were exempted from government confiscation because all tea from Tanzania was sold at the London auction. The Nyerere government feared retaliation if they were to confiscate the tea estates outright.

Nonetheless, in 1967 the Tanzanian government nationalised the Kwamkoro estate, which had been operated by an African company, and purchased the Bulwa estate, which belonged to an Indian African company. Both estates ultimately came to be administered by the Tanzanian Tea Authority. The combined output of the two estates, which exceeded 1,800 tonnes annually in 1967, plummeted to 300 tonnes by the mid 1980s. Two thirds of the original 1,318 hectares under cultivation came to be abandoned or neglected. The tea estates were privatised again in 1993.

Alongside the large estates, the government has advocated small-scale tea growers since 1967, but the productivity of small-scale tea holdings has remained low. Despite complex taxation, bureaucratic constraints and interference from the Tanzanian Tea Board and ministries, tea production in Tanzania has managed to increase gradually from 20,000 tonnes in 1990 to over 30,000 tonnes annually today.[125] Most tea leaves in Tanzania undergo the fate of conversion into CTC tea.

124 E.W. Bovill. 1950. 'White settlement', pp. 18–27 Matheson and Bovill (op.cit., p. 26).

125 John Baffes. 2004. *Tanzania Tea Sector: Constraints and Challenges* (Africa Region Working Paper Series No. 69). Washington: World Bank.

The East Africa Protectorate Becomes Kenya

Almost nobody thinks of Africa when it comes to tea, but with an annual production of 346,000 tonnes, and in good years in excess of 370,000 tonnes, most of which is exported, Kenya is the third largest tea producer in the world. Moreover, because the two largest tea producing countries, India and China, consume much of their own tea themselves, whilst Kenya exports 95% of its production, Kenya also happens to be the world's largest exporter of tea.[126] Yet Kenya made no impact whatsoever on the global tea market before the 1950s, whilst today we have probably all drunk some Kenyan tea without knowing it. Kenyan tea, grown in the highlands between 1500 and 2300 metres, constitutes over a quarter of all of Kenya's export earnings and represents 4% of the Kenyan gross domestic product.

The first tea plants of a dark Manipuri hybrid from Assam were brought to the protectorate of British East Africa from India in 1903 and planted at Limuru by G.W.L. Caine and his brother. In 1905, a second consignment of seed was delivered from India, and a tea was manufactured by hand from these tea plants which was well regarded. In 1907, the district commissioner H.B. Partington grew a tea tree in the garden of the parson at Kericho. In 1912, additional seeds were imported from Ceylon, and tea grew at Kericho, Kaimosi and Limuru. In the same year a field of Chinese cultivars was planted at Kericho by Arnold Mathews with seed provided by miss Cara Buxton and Arthur Barclay from the Mount Vernon estate on Ceylon. The two sons of the artist Sir William Quiller Orchardson were amongst the first Kenyan tea planters.[127]

In 1920, British East Africa was transformed into the Colony and Protectorate of Kenya, most of Kenya being a crown colony with a ten-mile coastal strip nominally representing the protect-

126 Chen and Chen (2012) in Chen, Apostolides and Chen (op.cit., p. 2).

127 Ukers (1935, Vol. I, p. 212).

orate, although both were under a single British administration. The first commercially viable plantations were only established by the British in 1925. In 1927, just 356 kg of tea were exported, but by 1929 over two thousand hectares had come under cultivation, and by 1947 nearly 6,700 hectares of land were under tea cultivation.[128]

The tea in Kenya is grown in the Rift Valley region along the equator. Brooke Bond and Finlay were the first large British tea companies in Kenya, and they are still the country's two largest commercial growers.[129] No agricultural research institutes were set up by the British colonial government because research and development were conducted by the highly successful tea entrepreneurs themselves.[130] In 1963, when the Commonwealth realm of Kenya gained independence as a British dominion, over 21,000 hectares of land were under tea cultivation. In December 1964, Kenya became a republic, and today some 160,000 hectares are under cultivation.[131]

Before independence, tea was grown primarily on tea estates. In 1963, the Kenya Tea Development Authority, which before independence had been called the Special Crops Development Authority, began to promote small-scale tea holdings by African farmers. In 1962, one tea processing factory was set up to serve 19,000 small-scale tea growers. Today in Kenya, sixty different tea processing factories serve approximately 560,000 registered small-scale tea farmers, who collectively cultivate about 100,000 hectares of land.[132] The large-scale tea sector in Kenya is represented by large multinational companies with big plantations and their own processing factories, which taken together cultivate over 50,000 hectares of land.

The year 1988 was a turning point in which the small-scale tea growers' production surpassed the output of the tea estates in Kenya. In 2003, smallholders represented 66% of the area under tea cultivation, representing 62% of the country's tea production.[133] Meanwhile, Dubai has emerged as the key tea buying, blending and packaging centre for Kenyan tea.[134] Most of the tea in Kenya is converted into the type of brown tea newly invented in Java and Assam in the late 19th century. Large British tea harvesters produced by Cab-Craft have come widely into use in Africa, where these mobile units with variable track width straddle two rows of bushes at a time and pluck, manure and spray the tea bushes.[135]

Virtually all of Kenya's tea passes into the perdition of CTC. Denys Forrest attributes the phenomenal success of this finely shredded oxidised black tea to the fact that Kenya's competitively priced teas can produce a 'bright colour' and 'happen to suit the not very exalted tastes of the modern British tea drinker'. The tea sells well in Ireland, the Netherlands, the United States, Canada and 'on an enormous scale' in Pakistan.[136] Only recently have improved clones been introduced with the aim of exploring the potential for the manufacture of green tea and 'silvery tips' white tea with high catechin content in Kenya,[137] and some rare and wonderful batches of Kenyan silver tip teas have in recent years sporadically become available through exclusive distributors. In Kenya, the major pests are mites, scale insects, thrips and termites, and the major tea plant diseases are caused by *Armillaria mellea, Hypoxylon serpens* and *Phomop-*

128 J.K. Matheson. 1950. 'Tea', pp. 198–206 Matheson and Bovill (op.cit., pp. 198–199).
129 Forrest (1985: 78).
130 J.K. Matheson. 1950. 'Agricultural research institutes', pp. 56–63 Matheson and Bovill (op.cit., p. 58).
131 Samson M. Kamunya, Francis N. Wachira, Ram S. Pathak, Richard C. Muoki and Ram K. Sharma. 2012. 'Tea improvement in Kenya', pp. 177–226 in Chen, Apostolides and Chen (op.cit., p. 179).
132 Kennedy O. Moenga. 2011. *Supply Chain Management Practices and Challenges for the Small Scale Tea Sector in Kenya*. University of Nairobi: M.B.A. thesis.
133 Francis. N. Wachira and Wilson Ronno. 2004. 'Current research on tea in Kenya', ICOS, 2: 59–65.
134 Alice Kirambi. 2008. *Report on Small-Scale Tea Sector in Kenya*. Nairobi: Christian Partners Development Agency.
135 Forrest (1985: 18).
136 Forrest (1985: 76–77).
137 Kamunya, Wachira, Pathak, Muoki and Sharma (2012: 216).

sis theae. In neighbouring Ethiopia, several hundred hectares of tea have been planted on three tea plantations, including the former government gardens of Wush Wush and Gumaro, in the hills of southwestern Ethiopia, in the Ilubabor and Kaffa regions, which is ironically the homeland of coffee.

From British Protectorate to Uganda

Tea was introduced experimentally by the government of the British protectorate of Uganda in 1900 at the Botanic Garden at Entebbe. Due to restrictions on planting tea at the time, little interest was initially shown. Tea seeds and tea seedlings were imported in 1904 and 1906 with varying success, but in 1909 five maunds of tea seeds were imported to Uganda from Assam by Lipton in Colombo, from which two thousand tea plants were raised by the government. In 1910, the government of British Uganda sold these tea seedlings to the Mabira Forest Rubber Company, who planted them on their Mabungo estate. Until 1924, this was the sole tea estate in Uganda, but the robust cultivar of 'Assam indigenous with some affinity to Manipuri' grown here became the progenitor of much Ugandan tea.

In 1931, in the Botanic Gardens at Entebbe, five pounds of seed each were planted of three newly imported cultivars, Dangri Manipuri, Betjan Assam and Rajghur Assam Manipuri, of which only the Betjan Assam thrived. By 1934, acreage under cultivation had expanded to 522 hectares. In 1935, an agricultural research station was opened at Kawanda, where some experiments with tea were conducted.[138] Private planters introduced new cultivars, with Burmese tea grown on Kadonge estate, Ceylonese cultivars on Mityana tea estate and Rajghur Assam Manipuri grown on Kisaka estate.[139] By 1947, the acreage of Ugandan tea plantations had increased to well over 2,000 hectares, and at this time the restrictions on tea planting were lifted.[140]

The Uganda Protectorate gained independence from Britain in 1962. The utter ruin of the tea industry and of Ugandan social fabric in general between 1971 and 1979 under the despotic rule of the country's third president Idi Amin was tragic. After the restoration of some order in 1980, several hundred tonnes of tea could be produced in 1980 and even more in 1981. In 1982, exports doubled, reaching 1,198 tonnes,[141] and the trend has been upward ever since. Currently Uganda produces an annual yield in the neighbourhood of 45,000 tonnes.

Cameroun, Nigeria, Rwanda and Burundi

The first tea was planted in Cameroun at the foot of Mount Cameroun in Tole in 1928. Cameroun has produced tea on an appreciable scale only since 1954, starting at Ndu and Tole, with the Tole tea estate being the country's oldest.[142] From France, the *Caisse centrale de cooperation économique* provided the capital for a 425 hectare tea estate and factory at Djuttitsa near Dschang.[143] Today the annual yield exceeds 4,500 tonnes.

A first tea plant was purportedly planted in Nigeria in 1952, but tea clones were only first brought from Kenya and Cameroun to the Mambilla plateau in the state of Taraba by the Nigerian Beverages Production Company in 1972. Here, at an elevation of 1460 metres, the production of tea on a commercial basis commenced in 1982, at which time tea production research also commenced under the auspices of the Cocoa Research Institute of Nigeria. The Nigerian company collaborates with roughly 600 small-scale producers

138 J.K. Matheson. 1950. 'Agricultural research institutes', pp. 56–63 Matheson and Bovill (op.cit., p. 59).

139 J.K. Matheson. 1950. 'Tea', pp. 198–206 Matheson and Bovill (op.cit., pp. 198–199).

140 Bovill (1950) in Matheson and Bovill (op.cit., p. 25).

141 Forrest (1985: 86–88).

142 Sanford H. Bederman. 1967. 'The Tole tea estate in West Cameroon', *Tijdschrift voor Economische en Sociale Geografie*, 58 (6): 316–323.

143 Forrest (1985: 92).

through a small-scale farmers scheme which the company itself set up.[144] Nigeria produces roughly 1,640 tonnes of black tea annually, processed by the CTC method.[145]

In the noughties, Nigerian farmers were hard-pressed to sell their fresh tea leaves as a result of the monopoly exercised by the only tea processing company located on the Mambilla highland. The company, however, lacked the capacity to process all the tea, resulting in a glut and losses to the tea farmers, who diversified into producing tea wines from the fermented infusions of green and oolong tea as well as making jams from infused tea and the dietary fibre extracted from tropical fruit.[146]

Tea plantations were first established in the Belgian trusteeship territory of Rwanda-Urundi in the 1950s. In 1962, Rwanda-Urundi was divided into the countries of Rwanda and Burundi, each of which was granted independence on the 1st of July 1962. There were five sizeable large tea estates in Rwanda in the 1970s with an overall production of 1,245 tonnes, and by the mid 1980s over 8,000 hectares were under cultivation in Rwanda, with nine government factories and one joint venture with a private company together producing a yield of over 7,000 tonnes of tea. Meanwhile in Burundi, an output of 657 tonnes in the 1970s grew to about 2,500 tonnes by the mid 1980s.[147] Today the annual tea output in Rwanda exceeds 23,000 tonnes, and the tea output in Burundi now exceeds 11,000 tonnes a year.[148]

144 Charles R. Obatolu and Ayoola B. Fasina. 2001. 'Features of tea (*Camellia sinensis* L.) production in Nigeria', *ICOS*, 1 (IV): 67–70.

145 Samuel S. Omolaja and Gerald O. Iremiren. 2012. 'Tea improvement in Nigeria', pp. 323–342 in Chen, Apostolides and Chen (op.cit.).

146 O. Aroyeun Shamsideen and Jayeola Chrisitiana. 2010. 'The effects of tea type and processing methods on the nutritional, alcoholic, caffeine and sensory profiles of wines produced from oolong and green tea', *ICOS*, 4, PR-P-88.

147 Forrest (1985: 76–77).

148 Agnes Bateta. 2014. 'Rwanda in tea boon', *East African Business Week*, 22 April 2014; 'Burundi sees tea output rising 2.4 pct in 2016', *Reuters Africa*, 10 March 2016.

Across the Continent of South America

Tea was first grown in Brazil in 1812, but the nascent Brazilian tea industry collapsed in 1888, when princess Isabel, acting as the regent of the emperor Pedro II of Brazil, abolished slavery. Japanese immigrants began settling in Brazil from 1908, and some of their descendants later undertook to revive the Brazilian tea industry. Today tea is commercially produced at Registro with fully mechanised harvesting and an annual output of about 7,500 tonnes.

Tea in the hispanophone Americas is of relatively recent date. Argentina has produced tea since 1951. After the first Argentinian tea reached London in 1957, the United Kingdom and the Netherlands began to buy up increasing equal shares. Soon Argentinian tea found markets in other countries. Neighbouring Chile, which happens to be the most ardent tea drinking country in South America, is a big buyer of Argentinian leaf. Argentina produces no less than 72,000 tonnes of tea a year. Tea is produced principally in the province of Misiones, which is a portion of Argentinian territory which protrudes northward in between Brazil and Paraguay. Since Argentina lies in the southern hemisphere, the tea is picked there from October through November.

Peru and Ecuador produce similar modest tea outputs. Tea was first planted experimentally in Peru in 1913. In 1928, plantations were established in the province of La Convención in Cuzco with the assistance of advisors from Ceylon, where Thomas Lipton had built his tea empire. From 1936, the first plantations were established in the Huánuco region, beginning with Chinchao in the province of Huánuco and Cayumba in the province of Leoncio Prado. By 1941, a tea factory was opened near Tingo María in Leoncio Prado, and in 1943 a second factory was opened at Huyro in La Convención. Tea was produced in the British industrial style adopted from Ceylon. Peruvian tea exports reached 1,000 tonnes by 1979, but murder, mayhem and extortion perpetrated by terrorists of *Sendero Luminoso* crippled the Peruvian tea industry

FIGURE 10.27
François André Michaux (1770–1855), an engraving of the author on the frontispiece of F. Andrew Michaux. 1865. *The North American Sylva; or, a Description of the Forest Trees of the United States, Canada, and Nova Scotia, translated from the French* (three vols.). Philadelphia: Rice, Rutter & Co.

during the 1980s and 1990s. Today about 1,700 hectares are under cultivation with Assam-China hybrids in Cuzco and around Tingo María in Huánuco.[149] In 1968, tea was introduced to Ecuador, where about 1,400 hectares are under cultivation, destined primarily for export to North America. Guatemala has a tiny tea production in two areas, the Los Andes tea estate at the southern foot of Atitlán volcano and the Chirrepec tea cooperative in Coban.

Tea in South Carolina

In the 1760s, the English botanist John Ellis sent tea seeds to the Carolinas, but they failed to germinate. A single tea plant was planted in South Carolina by French botanist François André Michaux in 1804 at Middleton Barony on the Ashley River. This tea tree grew to a height of fifteen feet, and Michaux managed to make an unsatisfactory tea from its leaves.[150] A retired London businessman, Dr. Junius Smith, experimented with tea on an estate near Greenville from 1848 until his death in 1852, and Dr. Alexis Forster experimented with tea near Georgetown from 1874 until his death in 1879.[151]

In 1857, the United States Patent Office hired Robert Fortune, famed for his exploits in China, to bring tea seeds to America. In March 1858, Fortune set sail for China and returned with two Wardian cases of tea seeds and plants. Fortune's mission ended upon the delivery of the seeds to America, and the seeds were widely distributed by the United States government throughout the South Atlantic and Gulf states. However, these states all seceded from the United States in January 1861 and only came under American jurisdiction again in

149 Manoj D. Archibald. 2017. 'Tea history of Peru', *Tea Maker, Tea, Tea blog*, 4 April 2017 (https://crazyteamakerblog.wordpress.com/2017/04/04/tea-history-of-peru).

150 Charles Upham Shepard. 1893. 'Special report on tea raising in South Carolina', pp. 627–640 in *Report of the Secretary of Agriculture 1892*. Washington: Government Printing Press.

151 Susan M. Walcott. 1999. 'Tea production in South Carolina', *Southeastern Geographer*, XXXIX (1): 61–74.

May 1865 after the Confederate States of America were defeated by the United States. When the newly formed Department of Agriculture finally gained access to these areas, the surviving tea gardens were all too small to be of any commercial value.[152] In the wake of his many exploits, Robert Fortune made one last voyage to the Far East, visiting China and Japan as a private citizen in 1862. Having accrued a small fortune during his life, Fortune died a rich man in 1880.[153]

From 1880 to 1884, the Department of Agriculture worked with Indian tea planter John Jackson to grow plants in Sommerville, using new seeds from India, China and Japan. After Jackson's poor results, Charles Upham Shephard planted 90 acres with tea at the nearby Pinehurst plantation, where the tea flourished until his death in 1915. The first Pinehurst tea plucking in 1893 yielded satisfactory tea. Domestic transportation costs, however, made South Carolina tea more expensive to sell in Chicago than Chinese tea. Shephard experimented with matchbox-sized 'tea tablets' made from compressed tea dust. Shephard also shaded tea artificially with matting to create 'shelter' tea with deep bluish leaves, and he won a prize at the St. Louis World Fair of 1904 for his 'Formosa oolong'. Tea trees still grow at Pinehurst.

In 1901, the American Tea Growing Company was founded by Augustus Tyler and a student of Dr. Shephard's named Roswell Trimble. Tyler and Trimble planted tea trees at Rantowles which grew for thirteen years. Then the property was sold and the timber harvested. In 1963, Lipton planted 127 acres with tea on Wadmalaw Island, and Lipton sold this farm in 1986 after being unable to reduce labour costs.[154]

Late Bloomers of the Pacific

In Australia, tea has been grown at Bingil Bay in North Queensland since 1884, where the four Cutten brothers established the first tea plantations down under. Tea is also grown in New South Wales, and annual production stood at about 1,500 tonnes of English style black tea in the noughties. In the 1990s, in an attempt to stimulate green tea production in Australia, *yabukita* 薮北 (やぶきた) 'bamboo north' and *sayamakaori* 狭山香 (さやまかおり) 'Sayama green' cultivars were planted at five sites in Tasmania, north of Sydney in New South Wales and in the Manjimup area of western Australia. The Australian Green Tea Growers Association was established in June 2000 with the aim of creating a viable Australian green tea industry. Most members are tea planters in North East Victoria who grow tea to supply Japanese firms making Japanese green tea.

Experiments with green tea production initially met with considerably less success in New Zealand. The Japanese *yabukita* cultivar was first planted in New Zealand in 1979, and commercially produced New Zealand green tea was marketed from 1991. At this time, 115 hectares were under cultivation in the Motueka area near Nelson on the South Island, but by 1999 the tea gardens had declined to 20 hectares because of limited profitability and adverse weather.[155] Yet on the North Island today, black, green and oolong teas are produced in the Waikato, where producers pride themselves on the purity of their organic teas. Tea has been grown by Australian and British planters in Papua New Guinea since 1961, but significant production was only attained in the 1970s, with exports destined primarily for Australia. Since then, annual output has fluctuated between 4,000 and 10,000 tonnes annually, with a general downward trend observable since the mid 1980s.

152 Walcott (1999: 67).
153 Sarah Rose (2009: 270–271).
154 Walcott (1999: 67–70).

155 Australian Green Tea Growers Association. 2003. *The Australian Growers Guide—Japanese Green Tea*, 30 May 2006, 23 pp.

Tea was first brought to Hawai'i in 1887. In 1892, the first five-acre plantation was established at Kona by the Hawaiian Coffee and Tea Company, but production was quickly abandoned as being unprofitable. Interest in tea cultivation was revived in Hawai'i only in the 1960s, when the horticulturalist Philip Ito planted several tea cultivars at the Waikea research station of the College of Tropical Agriculture and Human Resources of the University of Hawai'i. Between 1978 and 1980, the horticulturalist Yoneo Sagawa of the same college imported four tea cultivars from Kyōto University which he planted at the Lyon arboretum of the University of Hawai'i on O'ahu. After the demise of sugar on Hawai'i in the 1980s, Charles Brewer & Company, Amfac and Alexander & Baldwin set up trial tea plantations on Kaua'i, O'ahu, Maui and the Big Island, whereby Alexander & Baldwin went into partnership with Lipton from 1985 to 1994 on Kaua'i. All parties came to the same conclusion that the Hawaiian Coffee and Tea Company had drawn in the 1890s.

In 1993, John Cross planted an acre at Hakalau with two Assamese hybrids from an earlier trial conducted by Charles Brewer and began to produce CTC tea as a cottage industry. In 1997, Francis Zee planted Assamese seedlings at Waiakea and began to produce a 'Hilo Brew', halting the oxidation process by blanching the leaves in a microwave oven. In 1998, Zee collaborated with the College of Tropical Agriculture and Human Resources to conduct trials at Kamuela on the Big Island with cultivars imported from Japan and Táiwān at various elevations between 150 and 1200 metres, processing the tea again with microwave-heated steaming and then drying them in a dehydrator unit. From 2004, modern tea equipment was imported from Japan, and many small tea planters have begun to produce organically grown hand-crafted whole leaf teas as a specialised cottage industry.[156] Lovely green teas are now made in Hawai'i by quite a number of small artisanal tea producers, such as Mauna Kea at Honokaa and Tea Hawaii & Company

From Kew Gardens to Cornwall

Ornamental tea bushes have been grown in Cornwall since around 1800. The fact that there are tea trees in England at all is not surprising, for the English have been trying to grow tea for a very long time. The English first began bringing tea plants from Canton in the 1760s, and John Ellis brought a tea plant to Kew Gardens in 1768. Writing in 1772, John Coakley Lettsom recorded:

> Within thefe three or four years we have been fuccefsful enough to introduce to this kingdom a few genuine Tea plants. There was formerly, I am told, a very large one in England, the property of an Eaft-India captain, who kept it for fome years, and refufed to part with either cuttings or layers. This died, and there was not another left in the kingdom … I know feveral gentlemen, who have fpared neither pains nor expence to procure this evergreen from China, but their beft endeavours proved unsuccefsful. For though many ftrong and good plants were fhipped at Canton, and all poffible care taken of them during the voyage, yet they foon grew fickly, and but one till of late has furvived the paffage to England.
>
> The largest Tea plant in this kingdom, is, I believe, at Kew; it was prefented to that royal feminary by. J. Ellis, Efq; who raifed it from a feed. But the plant at Sion-houfe, belonging to the Duke of Northumberland, is the firft that ever flowered in Europe … The young Tea plants in the gardens about London thrive very well in the green houfes in winter, and fome bear the open air in fummer.[157]

156 Dwight Sato, Francis Zee, Wen-Hsiung Ko and Lyle Wong. 2001. 'Research on tea growing in Hawai'i', *ICOS*, 1 (11): 335–337; Dwight Sato, Milton Yamasaki and Francis Zee. 2007. 'The history of tea (*Camellia sinensis*) in Hawai'i', *ICOS*, 3, CH-P-001.

157 Lettsom (1772: vi–vii, 35). Lettsom's claim about the tea plant of the duke of Northumberland at Sion House is repeated by the author of *Tsiology* (A Tea Dealer 1826:

On the estate of the Boscawen family at Tregothnan, tea trees were planted in 1999. Their first actual tea was produced in 2001. In November 2005, the first offering of English tea made in England was sold at Fortnum & Mason in Piccadilly. Since 2006, the Tregothnan tea producers have been selling black tea from Cornwall. The leaves are picked in the traditional style, with two leaves and a bud being plucked at dawn, and the leaves subsequently being withered on bamboo racks. After rolling and oxidation, the leaves are dried to retain just 2% of their moisture. Within 36 hours after plucking, this organic English tea is ready for drinking. Tregothnan and the gardens are tended under the inspired horticultural direction of Jonathon Jones in a beautiful part of Cornwall with its marvellous climate along the banks of the rivers Fal and Truro.[158] The repertoire produced at Tregothnan includes a brown 'classic blend', a green tea, an afternoon tea and an Earl Grey.

Swiss Tea in the Ticino

Peter Oppliger's interest for tea was first kindled when he drove to India in 1964 in his grey 1956 Chevrolet, passing though Iraq, Iran and Afghanistan. After two months of meditation under the tutelage of a monk at Rishikesh ऋषिकेश *Ṛṣikeś*, his interest in Buddhist philosophy ultimately led him to Zen philosophy, and at the same time his interest in the history of tea led him to Japan as well. Years later, in the summer of 2004, Peter Oppliger planted one hundred tea trees in the botanical garden on one of the two Brissago islands in Lago Maggiore, visible from the shore of Ascona. The nursery project on Brissago met with success, and he later transplanted the trees to Monte Verità, where he established the first Swiss tea garden and where the plants can grow in an ideal microclimate for tea. The garden *Cultura del tè Monte Verità* opened in June 2006 and featured a Zen tea house, where the tea ceremony was routinely performed.

With inimitable flare, Peter Oppliger flew in Japanese tea masters from Shizuoka to Ticino each year during harvest time from 2006 to 2016. Together with Oppliger, in whom they saw their Swiss kindred spirit, these Japanese tea artisans prepared *shincha* 新茶 from the first flush of the garden each year. This highly exclusive rarity of the finest European alpine *sencha*, plucked and made by hand, was commercially available until 2016. Oppliger produced his Swiss *shincha* from the hundreds of tea trees of the *sinensis* variety in his garden, in which he also cultivated four *assamica* trees for comparison and reference.

In 2011, Peter Oppliger and Dirk Niepoort together undertook trials in the Douro valley in Portugal, where the Niepoort family has been producing port and wine since 1842. The Douro valley proved too dry for the tea trees to flourish, but their trials in the countryside near Oporto met with success. In 2014, Oppliger shipped 500 tea trees from Monte Verità to Portugal, where he and Niepoort established the sister plantation of the Monte Verità tea garden. Although the Portuguese introduced tea to Mozambique, Madeira, the Azores and Brazil, Oppliger appears to have been the first to introduce tea trees successfully to the Portuguese mainland. In January 2017, Oppliger sold his original tea garden on Monte Verità to Bernese tea merchants, but at the same time he established a new tea garden with his gardener near the Italian village of Cuzzago. In the spring of 2017, the tea garden at Cuzzago, like the gardens at Monte Verità in 2006 and Oporto in 2014, was

3), whereas Lettsom (1772: 13) repeats Hanway's incorrect claim that Lord Arlington and Lord Ossory were the first to bring tea to England from Holland in 1666. It is entirely possible that, with his intimate ties to the *stadthouder* Willem II and his marital ties to Dutch nobility, Lord Ossory might have brought tea to England at the height of the Second Anglo-Dutch War, as claimed by Hanway. However, even if Hanway's information is correct, Lord Ossory was by no means the first to do so. Hanway further embellished his claim, saying that 'their *Ladies* then became paſſionately enamored with it as a *new* thing: *their* example recommended it to the fine women of thoſe days' (1756: 215).

158 Griffiths (2011: 20); Angela Levin. 2013. 'Welcome to Tregothnan, England's only tea estate', *The Telegraph*, 20 May 2013.

FIGURE 10.28 Peter Oppliger founded the Swiss tea plantation at Monte Verità in 2004

likewise inaugurated with a Zen Buddhist ceremony. Oppliger also organises tea travels to Japan for small select groups of tea aficionados.

Tea in the Dragon Kingdom

Between 1774 and 1780, the governor general of the Presidency of Fort William in Bengal, Warren Hastings, sent seeds of Hyson tea to the British envoy George Bogle in Bhutan in order, as Hastings wrote, 'to aid your benevolent plan of introducing the luxuries and elegances of our world into that of Bhutan'.[159] Nothing ever seems to have come of Bogle's attempts, and in 1778 the English botanist Joseph Banks wrote that the 'mountains of Boutan give every reason to expect a climate similar to the Parts of China in which good Black Teas are at present manufactured' as well as 'all the Climates that are Found in the Cooler parts of the Empire of China and Consequently every variety necessary for the production of the Green Teas'.[160]

Over two centuries later, a green tea cultivation pilot project was started in 2009 at Samchö'ling བསམ་ཆོས་གླིང་ in Dr'akteng བྲག་སྟེང་རྒེད་འོག་ *geo* in Trongsa ཀྲོང་གསར་ district, funded by Kyŏngnam 경남 National University of Science and Technology at Chinju (晉州 / 진주).[161] The joint collaboration was undertaken after a Korean visitor to Bhutan identified the trees at Samchö'ling as tea. Locally, the people still knew that these tea trees had been planted in the Samchö'ling palace garden by the second hereditary king Jikme 'Wangchuk འཇིགས་མེད་དབང་ཕྱུག་ (*regnabat* 1926–1952). The project

159 Markham, Sir Clements Robert. 1876. *Narrative of the Mission of George Bogle to Tibet, and of Thomas Manning to Lhasa*. London: Trübner and Company (p. cxlviii).

160 quoted by Griffiths (1967: 34).

161 'Gyeongnam' in the Revised Romanisation of Korean.

FIGURE 10.29
The adolescent George Bogle of Daldowie, who later carried tea seeds to Bhutan in the late 1770s, detail from a painting, oil on canvas, private collection

began with six Bhutanese tea farmers in 2009, but this number suddenly grew to 27 by 2011 when the first Bhutanese green tea was packaged and marketed. In 2012, tea cultivation was permitted to be undertaken outside of the Samchö'ling community throughout the entire *geo* རྒེད་འོག་, and the number of tea farmers swelled to 101 by 2013. Participating Bhutanese tea planters each own between 33 decimals of land up to as much as one acre which they devote to tea cultivation.

Kyŏngnam National University also funded 75% of the construction costs of the three-storey Green Tea House at Samchö'ling, which was inaugurated on the 27th of June 2012. The Bhutanese government funded the remaining 25% of the costs. This visitor centre was not immediately taken into use, however, because the retaining wall collapsed in August 2012 and then, after rebuilding, fell over once again in July 2013. Tea is processed at the gardens but packaged at the renewable natural resource research centre at Küngga Rapten ཀུན་དགའ་རབ་བརྟན. In 2011, Bhutanese homegrown green tea was marketed in sealed 50 g packets in the capital Thimphu, each packet initially selling at 100 *'ngütram* དངུལ་ཀྲམ་ each. Whether Bhutanese green tea will one day attain the refined taste of fine *nokch'a* 녹차will also depend on the skills of local tea artisans and on whether enough tea connoisseurs cultivate a discerning taste for good green tea at the Bhutanese capital Thimphu.[162]

In the southwestern hills of Bhutan live the Lhokpu tribe, who speak their own very distinct Tibeto-Burman language. Here a few tea trees were planted privately by a Lhokpu man. His private

162 Sonam Choden. 2013. 'Nothing brewing at the Green Tea House', *Kuensel*, 14 September 2013.

FIGURE 10.30 Bhutanese tea garden at Küngga Rapten ཀུན་དགའ་རབ་བརྟན་
COURTESY OF SANGAY TENZIN སངས་རྒྱས་བསྟན་འཛིན་

project went completely unnoticed by the outside world, but he told me his story when I first visited the Lhokpu area in 1990 and 1992. Growing up, the man had never been fond of tea, which was naturally available to him under the locally brewed Indo-Bhutanese borderland guise of a sugary milky drink on the basis of boiled black CTC tea. Later, the man tried 'black tea' without milk and sugar, which, he had been told, was how Europeans drank tea. Of course, he also tried Bhutanese churned salted butter tea *sûja* སུ་ཇ་. He professed bafflement that people drank tea at all.

Then one day a Japanese volunteer in Bhutan served him some *sencha*, and his entire view of tea changed. As he told me, this was the *satori* 悟り moment when he realised what tea was all about, and he decided to plant tea trees on his own land. I told him that *sencha* was made by steaming, but in 2002 he told me that his lone attempt had not yielded the green tea for which had hoped. This sensitive and enterprising Lhokpu man, whose curiosity about the very *raison d'être* for tea had been transformed into a veritable passion for green tea, lamented the fact that *sencha* was not available in southwestern Bhutan.

Bohemia and Moravia Take to Tea

Bohemia and Moravia comprise one small part of Europe with a surprisingly sophisticated tea culture that developed only recently. Czechoslovakia emerged from a communist dictatorship in 1989, and on the first day of 1993 split peacefully into two republics, the Czech republic and Slovakia. The Czech republic, or *Česko* 'Czechia', consists of Bohemia and Moravia.[163] In the mid

163 The new term *Česko* is distinct from the Czech name for *Čechy* 'Bohemia', which, unlike *Morava* 'Moravia', declines as a *plurale tantum*, as do certain other Czech place names, e.g. *Benátky* 'Venice', *Antverpy* 'Antwerp', *Drážďany* 'Dresden', *Athény* 'Athens', *Mylhúzy* 'Mülhausen', *Helsinky* 'Helsinki', *Karlovy Vary* 'Karlsbad', *České Budějovice* 'Budweis', *Pardubice* 'Pardubitz', *Tep-*

1980s, Poland was a large consumer of tea, and Czechoslovakia a relatively small one.[164] The Polish *herbata* 'tea' is taken directly from the chapter title *Herba Theé* in Tulp's 1652 medical manual. However, since the end of communism, the Czech republic has, thanks to the inspiration of Jiří Šimsa and his associates, become a haven of tea sophistication.

The *Spolek milců čaje* 'company of tea devotees' was established on the 13th of February 1992 under Šimsa's inspired leadership.[165] This tea society brought out the first direct Czech translation of the *Classic of Tea* (*Chájīng* 茶經) by Lù Yǔ 陸羽 (733–804 AD) by Olga Lomová in 2002. Before the commercial hardcover book appeared and quickly sold out in book stores in Bohemia and Moravia, one hundred numbered copies were released that had been printed on hand-made paper, bound in a traditional Chinese binding and adorned with the beautiful calligraphy of Jiří Strak. The first numbered copy of this lovely limited edition was presented by the Czech tea society to the former Czech president Václav Havel, and nine copies were presented to outstanding personalities in Czech modern life, such as Pavel Tigrid, Josef Škvorecký, Svatopluk Karásek, David Vávra and Marek Eben.

That same year, a family of Czech tsiologists brought out a large digest of tea history in Czech, beautifully illustrated and balanced in coverage.[166] Like the Thoma family, Jiří Šimsa travelled through tea countries and published a lively account of his tea travels in 2009.[167] Šimsa established the chain *Dobrá čajovna* 'the good tea salon', which has dozens of shops and tea rooms throughout the Czech republic and several cities abroad such as the Polish city of Cracow, the Hungarian capital Budapest and Burlington in Vermont. It is in itself remarkable that in any major town in Bohemia or Moravia today, one can stop by in a tearoom and a drink a savoury cup of Japanese *matcha* 抹茶 or a cup of tea brewed from smokey Laotian *bang la* from inside a bamboo internode, in addition to a wide selection of other teas.[168] Šimsa has for several years now organised tea travels in the countries of tea for small and select groups of tea lovers.

Dutch Tea in the Age of Vertical Farming

In the 1760s, botanical specimens of tea were tended in Holland and England. At this time, Linnæus dreamt in vain of cultivating tea in Sweden in the hope that the tea plant might one day be as common in Europe as the lilac. In the 1780s, botanical specimens of *Camellia sinensis* were introduced to three Parisian gardens. A century later, in the 1880s, an experiment was conducted near Angers and Saumur in the lower Loire basin with the aim of growing tea commercially, but the tea plants

lice 'Teplitz', *Rakousy nad Dyjí* 'Raabs an der Thaya', *Vanky* 'Wangen im Allgäu', *Gotinky* 'Göttingen', *Erlanky* 'Erlangen', *Gopinky* 'Göppingen' and *Tubinky* 'Tübingen'.

164 Forrest (1985: 154–155).

165 A *spolek* has the connotations of a guild or association, but has been translated officially as 'company'. The Bohemian word *milec* denotes a 'favourite' and must not be confused with the common word *milenec* 'lover'. For example, *Král byl obklopen svými milci. Tedy ne těmi, kteří jej milovali, ale těmi, které on miloval* 'The king was surrounded by his favourites. That is, not by those who loved him, but by those whom he loved'. The *milec* 'favourite' therefore denotes a passive role, and Šimsa avers that the Czech tea lovers imagine themselves fortunate enough *že jsme milováni čajem* 'that we are loved by tea'. The official English translation 'company of tea devotees' is therefore merely an approximation.

166 Soňa Thomová, Zdeněk Thoma a Michal Thoma. 2002. *Příběh čaje*. Praha: Nakladatelství Argo.

167 Jiří Šimsa. 2009. *Milec čaje*. Praha: Spolek milců čaje a DharmaGaia.

168 The '*bang la*' from from Phôngsali ຜົ້ງສາລີ in northern Laos is akin to what the Jinghpaw call $p^{h}aʔ^{31}lap^{31}$. Large *assamica* leaves are withered in the sun on circular bamboo winnowing trays, parched in a pan, rolled by hand on a bamboo mat and dried in the sun. The dried leaves are then steamed and pressed into bamboo internodes, where they become smokey from being hung from the ceiling inside the smokey Akha village house above the fireplace. The second element in '*bang la*' is perhaps Akha la^{31} 'tea'.

proved unable to endure the French winter. The snowy tea gardens of Murakami 村上 in Niigata 新潟 prefecture are justly famous, and tea trees have in the past even been grown on Hokkaidō, though not in any sustainable fashion. In the temperate northerly clime of Cornwall, tea has been grown commercially with success since 1999.

In the portion of the province of South Holland wedged in between The Hague, Delft and Rotterdam and bordering the North Sea, plants, fruits and vegetables have been grown commercially in glass hothouses since the middle of the 19th century Since 2001, this area has been known as the Westland and comprises the communities of Wateringen, 's-Gravenzande, Naaldwijk, Monster, De Lier, Schipluiden and Maasland. The ability of many plants not just to germinate, but also to grow on water has long been known. Before his death in 1626, Francis Bacon made the experimental observation that the phenomenon of plants growing on water

> ſheweth that *Aire* may be made ſo to be Condenſed, as to be conuerted into a *Denſe Body* ... It ſheweth alſo, that *Aire* can *Nouriſh*; which is another great Matter of Conſequence.[169]

After the Second World War, the technique of hydroponics came to be applied on an industrial scale. Although the topography of the landscape in the Westland is uncompromisingly horizontal, vegetables inside the hothouses were grown, arranged in vertical tiers. Recently, the spread of this technique into cities worldwide has come to be called vertical farming. Tea has experimentally been grown hydroponically in several places, including Japan.[170] In the cradle of industrial scale hydroponics in the Westland, certain types of plants, however, are still more usually grown in pots with their roots luxuriating in natural soil, including tea.

A dozen years after the Cornish venture had begun, Johan Jansen began cultivating tea plants in the Dutch province of North Brabant in order to breed tea cultivars that were hardy enough to withstand a Dutch winter. In 2017, after seven years of tea breeding in Dutch hothouses, Johan Jansen founded *Tea by me*, a product line of tea saplings marketed by Special Plant in Zundert for use both as indoor and outdoor plants. Jansen's aim is to market live tea plants and to educate people about how to manufacture tea at home. His colleague, Dutch tea cultivator Linda Cebrian-Rampen, has already prepared home-grown Brabantian tea, using wok-parched leaves from cultivars developed by Jansen. A higher ambition is Jansen's plan to develop varieties of Occidental tea that can one day even be exported to Asia. Centuries after the many wars waged by Dutchmen so that they could conduct their trade in Asian tea without let or hindrance, today Dutch tea cultivars are being sold so that people can grow *Camellia sinensis* in their own home or garden and manufacture tea themselves.[171]

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169 Bacon (1627, Cent. 1, № 29, p. 9).

170 Kieko Saito, Kenji Furue, Hideki Kametani and Masahiko Ikeda. 2014. 'Roots of hydroponically grown tea (*Camellia sinensis*) plants as a source of a unique amino acid, theanine', *American Journal of Experimental Agriculture*, 4 (2): 125–129.

171 Anne-Marie Fokkens. 2017. *Booming Brabant, uitzending van 13 april 2017* ⟨http://www.omroepbrabant.nl/?epg/18617742/Booming+Brabant.aspx⟩.

CHAPTER 11

Tea Chemistry and Fanciful Concoctions

Tea Science or Tsiology

Okakura called the philosophy of tea *Teaism*, and in 1905 he claimed that 'Teaism was Taoism in disguise'.[1] Steven Owyoung maintains a website called *Tsiosophy* 'wisdom of tea', a blog devoted to the history and literature of *Camellia sinensis* and Chinese poetry. His coinage *tsiosophy* was inspired by the title of the book *Tsiology* published by a London tea dealer in 1826.[2] In origin, the book *Tsiology* is a second-generation plagiarisation of *The Tea Purchafer's Guide* of 1785, previously plagiarised by the London Genuine Tea Company in 1820.[3] The term *tsiology* in this book is derived from the Roman rendering *tsia* used by Willem Piso in 1658 and Jacob Breyne in 1678 for the Japanese word *cha* 茶 (ちや) 'tea'. Whether or not tea scientists will choose to style themselves as *tsiologists* and qualify their scientific investigations as *tsiology*,[4] and tea philosophers to style themselves as *tsiosophers*, remains to be seen, but both the coinages are available for those who wish to use them.

A treatment of tsiology or tea science necessarily compels us to delve into the biochemistry of tea and its vital components. Many tea drinkers are curious about these very aspects of tea, particularly with regard to the much touted health benefits of tea. In portions of the chapter, the explanations require the precise use of technical terms, which may strike some uninitiated readers as overly technical. Such gentle readers are invited to skip over any hard going portions. The constant progress in the biochemical discoveries of the substances contained in tea, their effects and uses, has ultimately led to the sequencing of the tea genome and will now take us beyond into an uncharted future. The fascinating history of discovery recounted here is a hitherto largely untold tale, which will take us to the rise of bottled tea drinks and fashionable concoctions such as bubble tea. The explanation of the various factors that determine the fragrance and taste of tea will again necessitate a smidgen of biochemistry.

Caffeine

The caffeine contained in tea leaves serves as a natural insecticide that paralyses certain insects. This

1 Okakura (1906: 44), first published in 1905.

2 The book *Tsiology* was written anonymously by a 'Tea Dealer'. The author's address appears on page vi, however, as 'Canton House, No. 1, Gerrard Street, Soho', which at this time was occupied by Lewis Gore Gordon, who together with Charles Ward ran the tea dealership Lewis Gordon and Company. On the 1st of November 1828, two years after the publication of *Tsiology*, Gordon was sued pursuant to the Act for the Relief of Insolvent Debtors at the court house in Portugal Street. (*The London Gazette*, Friday, 10 October 1828 [№ 18512], p. 1863).

3 The 1820 plagiarisation was published by the London Genuine Tea Company, founded on the 5th of November 1818 by Frederick Gye and Richard Hughes, who marketed what they described as 'unadulterated Teas' at shops on Ludgate Hill, at Charing Cross and in Oxford Street. A fiat of bankruptcy was issued against the two men on the 5th of June 1840 (London Genuine Tea Company. 1820; *The London Gazette*, Friday, 9 June 1843 [№ 20232], p. 1952).

4 As an alternative to *tsiology*, Park and Lee proposed the dismal coinage *teaics*, presumably by analogy to words such as *callisthenics* and *eugenics*. They rather bizarrely prescribe that their neologism should be pronounced as /ti:ks/, rather than what would have been the natural English pronunciation /tiːɪks/. As a consequence of this decidedly odd coinage, Sŏwŏn University's School of Food Science maintains a department which in English currently styles itself the 'Department of Teaics'. Arguably, English coinages should be left to native speakers or at least to those with a greater proficiency in the English language (Byunggun Park and Eonsook Lee. 2004. 'structure and categories of teaics', *ICOS*, 2: 698–701; Byunggun Park and SangYoun Park. 2010. 'An analysis of preference of coffee of the lovers of Korean green tea according to coffee brewing ways', *ICOS*, 4, PR-P-94).

FIGURE 11.1
Friedlieb Ferdinand Runge (1794–1867) isolated caffeine from coffee in 1819 and subsequently extracted Catechu-Gerbsalz 'catechu tanning salt', which was probably epicatechin (EC), from *Acacia catechu* in 1821, oil painting from 1908 by Richard Pfeiffer (1878–1962), based on an early photograph, Deutsches Museum, München, Archiv CD 72560.

is why the concentration of caffeine is highest in the buds and young leaves of the tea tree, which are more vulnerable to insects than mature leaves. This also explains the particularly high concentration of caffeine in those teas which contain more buds or those made exclusively from the tea buds, such as a good silver needle or silver tips white tea. Likewise, green teas contain more caffeine than many varieties of black tea. In humans, caffeine acts as a stimulant affecting the central nervous system and other aspects of human metabolism, for example exhibiting analgesic and diuretic properties. The caffeine in tea is sometimes called theine.

Caffeine was first isolated from coffee in 1819 by Friedlieb Ferdinand Runge, who called the crystalline substance Kaffebase 'coffee alkali'.[5] A year later, on the 15th of September 1820, Johann Emanuel Ferdinand von Giese at the University of Dorpat, as the Estonian city of Tartu was known

5 Friedlieb Ferdinand Runge. 1820. Neueste Phytochemische Entdeckungen zur Begründung einer wissenschaftlichen Phytochemie, Erste Lieferung. Berlin: G. Reimer (esp. pp. 144–159).

FIGURE 11.2 Dutch chemist Gerardus Johannes Mulder, painted by Johan Heinrich Neuman in 1892, Universiteitsmuseum Utrecht

FIGURE 11.3 Sakato Yajirō 酒戸弥二郎 (1906–1976) discovered, isolated and identified theanine in 1949.

in German, likewise independently isolated caffeine from coffee. Giese referred to this substance simply as Kaffeestoffe 'coffee substance'.[6] Soon afterwards, Pierre Jean Robiquet and Pierre Joseph Pelletier reportedly succeeded in isolating caffeine from coffee, and it is in Paris that the term *caffeine* or *caféine* was coined.[7] Consequently, Gustav Theodor Fechner referred to caffeine in his chemistry textbook of 1827 variously as Kaffeebitter 'coffee alkaloid', Kaffeestoff 'coffee substance', Caffein and Coffein 'caffeine'.[8]

Theine was extracted from Souchong tea in 1827 by a French chemist named Oudry.[9] However, in 1838, Gerardus Johannes Mulder in Rotterdam and Carl Jobst in Stuttgart independently established that both caffeine and theine were one and the same natural substance with exactly the same molecular formula $C_8H_{10}N_4O_2$.[10] None the less there is a persistent strain of spurious urban lore which claims that theine is 'better for you' than

6 Johann Emanuel Ferdinand von Giese. 1820. « Vermischte chemische Bemerkungen vom Professor und Ritter Giese », pp. 83–85, vol. 4 in Alexander Nicolaus Scherer (Herausgeber), Allgemeine nordische Annalen der Chemie für die Freunde der Naturkunde und Arzneiwissenschaft. St. Petersburg: Im Verlag des Herausgebers (Vierter Band, S. 85).

7 In 1823, Achille Richard employed both of these two spellings to write the name of the white crystalline alkaloid purified by Robiquet and Pelletier. Moreover, Richard explained that the gallic acid found in coffee was referred to as *cafique* (Achille Richard. 1823. *Botanique médicale ou histoire naturelle et médicale des médicamens, des poisons et des alimens tirés du règne végétal* (two volumes). Paris: chez Béchet Jeune, vol. 1, p. 436 and vol. 2, p. 802).

8 Gustav Theodor Fechner. 1827. Repertorium der organischen Chemie. Leipzig: Leopold Voß (pp. 551–553, 659–662).

9 Oudry. 1827. 'Note sur la théine', *Nouvelle Bibliothèque Médicale*, I: 477–479; published in German translation that same year as: Oudry. 1827. « Thein, eine organische Salzbase im Thee (Thea chinensis) », Magazin für Pharmacie und die dahin einschlagenden Wissenschaften, 19: 49–50.

10 Gerardus Johannes Mulder. 1838. 'Ueber Theïn und Caffeïn', *Journal für Praktische Chemie*, 15: 280–284; Carl

caffeine. The reason that this belief has proved so robust is simply that most people can sense that the effects of drinking a cup of tea engender quite a different feeling than does the taking of a cup of coffee. This difference in feeling is very real but has nothing to do with any difference in the type of caffeine that we find in coffee or tea. We shall turn to some of the other compounds in tea shortly, but first let us discuss caffeine.

Tea and coffee are certainly not the only plant commodities to contain caffeine. Cacao also contains caffeine, as do, for example, the kola nut of the African tree *Cola acuminata* and yerba maté, the leaves of the South American tree *Ilex paraguariensis*. Caffeine affects the central nervous system by acting as a competitive antagonist of the A_1 and A_{2A} adenosine receptors. Through a competitive blockade of these two adenosine receptors, caffeine also affects the cardiovascular system and raises blood pressure.[11] However much tea and coffee drinkers may grow fond of the affects of caffeine, this substance is not physiologically addictive. Yet the overuse of tea can cause the jitters, as described by John Wesley in his Methodist tract of 1784, and may even provoke an uncomfortable sense of anxiety, although too much caffeine evidently affects different personalities somewhat differently.[12]

As Dufour observed in 1685 …

> Ce qui a beaucoup fervi à mettre en reputation le Thé en Europe eft la qualité qu'on lui atribuë d'empêcher le fommeil, & de reparer les forces que la veille diffipe car cela le fit rechercher par les gens d'affaires, par les Agens, les Ambaffadeurs, & autres perfonnes qui font obligées de veiller fouvent.[13]
>
> What has really contributed to enhancing the reputation of tea in Europe is its reported quality of driving off sleepiness and restoring the stamina depleted by wakefulness, for this has made the commodity much sought after by agents, ambassadors and other persons who are compelled to remain wakeful for long hours.

… and verily the main effect of caffeine in normal doses is to enhance alertness, attention and vigilance, and this effect is measurable even after just one cup of tea.[14] As a consequence, the use of tea or coffee appears to facilitate learning and improve cognitive performance, although caffeine does not appear directly to exert any specific biochemical effect on the mechanisms of information retrieval in either short-term or working memory. Rather, the effects of caffeine are both subtle and complex.[15]

For example, whilst studies show that caffeine may enhance the ability to ignore distracting or irrelevant stimuli,[16] at least one study suggests that memory span performance tasks, such as backwards digit recall, appear to be enhanced by caffeine under noiseless conditions, but actually to be

Jobst. 1838. 'Thein identisch mit Caffein', *Annalen der Pharmacie*, XXV (1, 1): 63–66.

11 John W. Daly and Bertil B. Fredholm. 1998. 'Caffeine, an atypical drug of dependence', *Drug and Alcohol Dependence*, 51: 199–206.

12 Barry D. Smith, Amanda Osborne, Mark Mann, Heather Jones and Thom White. 2004. 'Arousal and behaviour: Biopsychological effects of caffeine', pp. 35–52 in Astrid Nehlig, ed., *Coffee, Tea, Chocolate and the Brain*. Boca Raton: CRC Press.

13 Dufour (1685: 228).

14 Martin J. Jarvis. 1993. 'Does caffeine intake enhance absolute levels of cognitive performance?', *Psychopharmacology*, 110 (1–2): 45–52; Paul J. Durlach. 1998. 'The effects of a low dose of caffeine on cognitive performance', *Psychopharmacology*, 140: 116–119.

15 I. Hindmarch, P.T. Quinlan, K.L. Moore and C. Parkin. 1998. 'The effects of black tea and other beverages on aspects of cognition and psychomotor performance', *Psychopharmacology*, 139 (3): 230–238; Harris R. Lieberman. 2001. 'The effects of ginseng, ephedrine and caffeine on cognitive performance, mood and energy', *Nutritions Reviews*, 59 (4): 91–102; Jan Snel, Monicque M. Lorist and Zoë Tieges. 2004. 'Coffee, caffeine and cognitive performance', pp. 53–71 in Nehlig (op.cit.).

16 W.J. Thorian, J.L. Kobrick, H.R. Lieberman and B.J. Fine. 1993. 'Effects of caffeine and diphenhydramine on

impaired by caffeine under noisy conditions.[17] Perhaps these disparate outcomes are attributable to the fact that caffeine mildly enhances the acuity of auditory sensations, but preferentially enhances visual sensations. The paradoxical effect of caffeine under differing circumstances of ambient noise may clarify the use of tea both to enhance concentration during the tranquility of Zen meditation in resplendent silence as well as to heighten the distraction of the chatter during a noisy English afternoon tea.

Many of the other possible effects of caffeine continue to attract scholarly attention. Studies on the sometimes touted neuroprotective effects of caffeine in preventing strokes or reducing the likelihood of epileptic seizures have to date been inconclusive.[18] However, caffeine does appear to help delay the onset of Alzheimer's disease and may perhaps help somewhat to reduce the effects of Parkinson's disease.[19] Moreover, in the elderly, baseline arousal tends to be reduced, and studies suggest that by restoring arousal levels caffeine may help facilitate cognitive functioning in older brains.[20] Caffeine is not addictive in any physiological sense, although a fondness for the effect of caffeine is experienced by some as a psychological addiction of sorts. Any talk of an actual 'caffeine addiction', however, is a figment of the imagination.

An interesting effect of caffeine appears to be providing a modicum of relief to some migraine sufferers. Although caffeine is a vasodilator, this compound enhances cerebrovascular resistance and consequently actually decreases cerebral blood flow in those very areas of the brain where it speeds up the metabolism, such as the thalamus, the motor and limbic systems and in monoaminergic cell groupings. This activity could underlie the observation that caffeine provides a bit of relief to some migraine sufferers, due to the fact that the pain during a migraine attack originates from the dilatation of the ipsilateral medial cerebral artery, the superficial temporal artery and other extracranial arteries.[21]

A whopping 3% of the dry weight of young tea shoots and tea buds consists of pure caffeine. Yet most of the caffeine is leeched out of the tea leaves into the infusion in the first half a minute. People who keep brewing tea from the same leaves more than once will therefore not be leeching out any appreciable amount of caffeine from the leaves after the first infusion. In the course of millennia, tea has made caffeine the most famous purine alkaloid in the world. Tea also naturally contains the special enzyme *N*-methyltransferase which plays a key role in synthesising caffeine from xanthosine via

auditory evoked cortical potentials', *Perceptual and Motor Skills*, 76 (3, 1): 707–715; J.L. Kenemans and M.N. Verbaten. 1998. 'Caffeine and visuo-spatial attention', *Psychopharmacology*, 135 (4): 353–360.

17 R.A. Davidson and B.D. Smith. 1989. 'Arousal and habituation: differential effects of caffeine, sensation seeking and task difficulty', *Personality and Individual Differences*, 10: 111–119.

18 Astrid Nehlig. 2004. 'Can tea consumption protect against stroke', pp. 53–71 in Nehlig (op.cit.); Astrid Nehlig and Bertil B. Fredholm. 2004. 'Caffeine in ischaemia and seizures: Paradoxical effects of long-term exposure', pp. 165–174 in Nehlig (op.cit.).

19 G. Webster Ross, Robert D. Abbott, Helen Petrovitch, David M. Morens, Andrew Grandinetti, Ko-Hui Tung, Caroline M. Tanner, Kamal H. Masaki, Patricia L. Blanchette, J. David Curb, Jordan S. Popper and Lon R. White. 2000 'Association of coffee and caffeine intake with the risk of Parkinson's disease', *Journal of the American Medical Association*, 283 (20): 2674–2679; A.L. Maia and Alexandre Valério de Mendonça. 2002. 'Does caffeine intake protect from Alzheimer's disease?', *European Journal of Neurology*, 9 (4): 377–382; Michael A. Schwarzschild and Alberto Ascherio. 2004. 'Caffeine and Parkinson's disease', pp. 147–163 in Nehlig (op.cit.).

20 Martin P.J. van Boxtel and Jeroen A.J. Schmitt. 2004. 'Age-related changes in the effects of coffee on memory and cognitive performance', pp. 85–96 in Nehlig (op.cit.).

21 Vladimir C. Hachinksi, Jes Oleson, J.W. Norris, B. Larsen, E. Enevoldsen and N.A. Lassen. 1977. 'Cerebral haemodynamics in migraine', *Canadian Journal of Neurological Science*, 4 (4): 245–249; Astrid Nehlig. 2004. 'Caffeine and headache: Relationship with the effects of caffeine blood flow', pp. 53–71 in Nehlig (op.cit.).

several methylation steps involving the metabolite *S*-adenosylmethionine. The intermediate steps in deriving caffeine from xanthosine are represented by the substances 7-methylxanthosine, 7-methylxanthine and finally theobromine. The gene coding for *S*-adenosylmethionine synthetase in tea, with its associated cDNA sequence consisting of 805 base pairs, has been shown to be homologous with *S*-adenosylmethionine synthetase in a number of other plant species.[22]

From Teaism to Theanine

Tea awakens the mind and arouses the senses, but soothes the heart. Both the sense of well-being brought about by imbibing Japanese green tea and the sophisticated aestheticism of Japanese tea culture were the very things which first enthralled the earliest European visitors from the time of João Rodrigues in the 16th century. This sense of wonder and aestheticism was rekindled in the West by Okakura Kakuzō 岡倉覚三 with his *The Book of Tea*, which made its début in Boston at a time that the West had already largely begun to abandon the drinking of the fine teas that had inspired the Occidental love affair with tea in the first place. His Teaism evoked a sense of yearning for an exotic beverage that was not the brown tea that had come to glut the Western marketplace.

Caffeine may very well be the most widely used psychoactive substance in the world, but caffeine is not the only psychoactive ingredient contained in tea, and the differences in the overall chemical composition between tea and coffee are enormous. The ancients may not have had a precise idea of cell physiology, but what tea drinkers in antiquity knew very well was that tea enhanced alertness and instilled a sense of well-being. In addition to caffeine or 'theine', tea also contains a glutamic amino acid known as theanine. Theanine, or L-theanine, has the molecular formula $C_7H_{14}N_2O_3$ and is known to organic chemists as γ-glutamylethylamide.

The reason that this substance is known as theanine is because it is found only in tea, where it was first discovered, isolated and identified in 1949 by Sakato Yajirō 酒戸弥二郎 (さかとやじろう) in Japan,[23] where theanine has since 1964 been permitted as an additive in foodstuffs and beverages. Theanine is an amino acid uniquely abundant in tea that is absorbed in the intestine and passes via the blood to the brain, where it modulates brain function by exerting a number of psychoactive effects and increasing alpha wave activity.[24] Theanine constitutes between 1% and 2% of the dry weight of tea and accounts for about 50% of the total free amino acids in tea. The levels of theanine are higher in *matcha* and *gyokuro* than in *sencha* or *bancha*.

Theanine content can be more than doubled by drying the tea leaves in the sun as opposed to drying tea indoors with hot air. The process of drying the tea leaves in sunlight reduces the catechin content by one fifth and the chlorophyll content by a quarter, but greatly enhances the content of the eighteen free amino acids in the tea, and consequently improves the taste.[25] Theanine has been found to be antagonistic to some of

22 Misako Kato. 2001. 'Biochemistry and molecular biology in caffeine biosynthesis: Molecular cloning and gene expression of caffeine synthase', *ICOS*, 1 (II): 21–24; Yuerong Liang, Junichi Tanaka and Yoshiyuki Takeda. 2001. 'Molecular cloning and sequencing of a *Camellia sinensis* cDNA encoding S-adenosylmethionine synthetase', *ICOS*, 1 (II): 58–61.

23 Sakato Yajirō 酒戸弥二郎 (さかとやじろう). 1949. 茶の成分に關する研究(第3報)一新 Amide "Theanine" に就て酒戸彌二郎 ['Studies on the chemical constituents of tea, Part III: On a new amide theanine'], 日本農芸化学会誌 *Nippon Nōgei Kagaku Kaishi*, 23 (6): 262–267.

24 Manuel Gomez-Ramirez, Beth A. Higgins, Jane A. Rycroft, Gail N. Owen, Jeannette Mahoney, Marina Shpaner and John J. Foxe. 2007. 'The deployment of intersensory selective attention: A high-density electrical mapping study of the effects of theanine', *Clinical Neuropharmacology*, 30 (1): 25–38; A.C. Nobre, A. Rao, G.N. Owen. 2008. 'L-theanine, a natural constituent in tea, and its effect on mental state', *Asia Pacific Journal of Clinical Nutrition*, 17 (Supp. 1): 167–168.

25 Hidetoshi Aoki, Hidehiro Tomita and Rumi Sakurada.

the effects of caffeine, which results in a perhaps more harmonious feel brought about by green tea, as compared to coffee. Theanine has been found to improve the memory of rats and facilitate neurogenesis in the hippocampus.[26] In chemical structure theanine resembles glutamate, a neurotransmitter associated with memory functions.[27] Theanine enhances concentration, sharpens both attention and memory whilst reducing stress and anxiety, thereby improving overall cognitive function.[28]

The regular intake of tea reduces hypertension.[29] Presumably through its effects on the sympathetic nervous system, theanine causes a feeling of relaxation and, in women, helps to alleviate the emotional tension which may characterise premenstrual syndrome.[30] The theanine in tea plays a role in neurotransmitter release[31] and helps to protect the brain.[32] Green tea consumption mitigates the decline of cognitive functions in the elderly, and the beneficial effects of theanine in this regard may be brought about by its antagonistic effect on glutamate receptors, which might inhibit glutamate toxicity in the brain.[33]

Theanine decreases the level of norepinephrine and serotonin in the rat brain, and, administered intraperitoneally, caused a significant decrease in blood pressure in spontaneously hypertensive rats.[34] Theanine releases dopamine from the

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2004. 'Effects of solar rays on changes in the quality of green tea in solar drying conditions', *ICOS*, 2: 288–289.

26 Kazuhiro Sakamoto, Atsushi Takeda, Haruna Tamano, Naoto Inui, Sang W. Suh, Seok J. Won, Lekh R. Juneja and Hidehiko Yokogoshi. 2010. 'The effect of theanine on hippocampal neurogenesis and cognitive function in young rats', *ICOS*, 4, HB-P-31.

27 Hidehiko Yokogoshi, Makoto Kobayashi, Miyako Mochizuki and Takehiko Terashima and Yukio Kosugi Terashima. 1998. 'Effect of theanine, γ-glutamylethylamide, on brain monoamines and striatal dopamine release in conscious rats', *Neurochemical Research*, 23 (5): 667–673; Kanari Kobayashi, Yukiko Nagato, Nobuyuki Aoi, Lekh Raj Juneja, Mujo Kim, Takehiko Yamamoto and Sukeo Sugimoto. 1998. 'Effects of L-theanine on the release of α-brain waves in human volunteers', *Nippon Nōgeikagaku Kaishi*, 72 (2): 153–157. Pradeep J. Nathan, Kristy Lu, M. Gray and C. Oliver. 2006. 'The neuropharmacology of L-theanine(N-ethyl-L-glutamine)', *Journal of Herbal Pharmacotherapy*, 6 (2): 21–30; Takashi Yamada, Takehiko Terashima, Keiko Wada, Sakiko Ueda, Mitsuyo Ito, Tsutomu Okubo, Lekh Raj Juneja and Hidehiko Yokogoshi. 2007. 'Theanine, r-glutamylethylamide, increases neurotransmission concentrations and neurotrophin mRNA levels in the brain during lactation', *Life Sciences*, 81 (16): 1247–1255; Chisato Wakabayashi, Tadahiro Numakawa, Midori Ninomiya, Shuichi Chiba and Hiroshi Kunugi. 2012. 'Behavioural and molecular evidence for psychotropic effects in L-theanine', *Psychopharmacology*, 219 (4): 1099–1109.

28 Lekh Raj Juneja, Djong-Chi Chu, Tsutomu Okubo, Yukiko Nagato and Hidehiko Yokogoshi. 1999. 'L-theanine, a unique amino acid of green tea and its relaxation effect in humans', *Trends in Food Science & Technology*, 10 (6–7): 199–204; Timo Giesbrecht, Jane A. Rycroft, Matthew J. Rowson and Eveline A. de Bruin. 2010. 'The combination of L-theanine and caffeine improves cognitive performance and increases subjective alertness', *Nutritional Neuroscience*, 13 (6): 283–290; Pradeep J. Nathan, Kristy Lu, M. Gray and C. Oliver. 2006. 'The neuropharmacology of L-theanine(N-ethyl-L-glutamine): A possible neuroprotective and cognitive enhancing agent', *Journal of Herbal Pharmacotherapy*, 6 (2): 21–30.

29 Yi-Ching Yang, Feng-Hwa Lu, Jin-Shang Wu, Chih-Hsing Wu, and Chih-Jen Chang. 2004. 'The protective effect of habitual tea consumption on hypertension', *Journal of the American Medical Association*, 164 (14): 1534–1540.

30 Yuko Nishimura, Takashi Yamada, Takehiko Terashima, Lekh Raj Juneja, Hidehiko Yokogoshi. 2004. 'The effect of theanine on the sympathetic nervous system in rats', *ICOS*, 2: 625–626.

31 Takashi Yamada, Yukiko Shoji, Susumu Kawano, Takehiko Terashima, Tsutomu Okubo, Lekh Raj Juneja and Hidehiko Yokogoshi. 2004. 'Effects of theanine on neurotransmission and its mechanism', *ICOS*, 2: 625–626.

32 Takehiko Terashima, Akiko Kitagawa, Chikako Atsumi and Hidehiko Yokogoshi. 2004. 'Effect of theanine intake on survival and brain injury in stroke-prone spontaneously hypertensive rats', *ICOS*, 2: 623–624.

33 Takami Kakuda, Yosky Kataoka, Kazuhiro Utsunomiya, Noriaki Kinbara, Kiyoshi Kataoka and Yukio Yoneda. 2010. 'Preventive effects of green tea containing theanine at a high concentration on cognitive dysfunction in aged volunteers', *ICOS*, 4, HB-P-17.

34 R. Kimura and T. Murata. 1971. 'The influence of alkylamides of glutamic acid and related compounds on the central nervous system. I. Central depressant effect of theanine', *Chemical and Pharmaceutical Bulletin*, 19: 1257–1261.

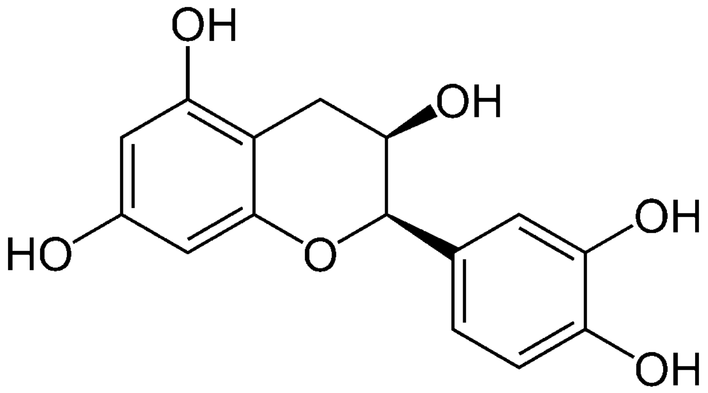

FIGURE 11.4
Epicatechin (EC)

striatum, increases the tryptophan level whilst decreasing the norepinephrine level and mitigates the rise in the levels of serotonin and 5-hydroxyindoleacetic acid induced by caffeine. Yet theanine does not affect the release of glutamic acid and aspartic acid by the neurons, nor does theanine affect glutamate transporters.[35] One study suggested that theanine helped reduce the cognitive stress of brain senescence presumed to be connected with artificially induced social stress in rats.[36]

Theanine has even been shown to alleviate some of the symptoms associated with schizophrenia, and the compound also exerts cerebroprotective effects after a stroke by helping to prevent neuronal cell death.[37] The biochemical pathways by which theanine exerts its paradoxical effects are complex. The theanine contained in tea may help facilitate the metabolism of alcohol and so decrease alcohol toxicity.[38] Moreover, theanine may be implicated in the increased levels of antibacterial proteins found in the blood of tea drinkers, and the substance may play a role in enhancing the activity of gamma delta T cells in the immune system.[39] Theanine also imparts much of the characteristic *umami* flavour to green tea.[40]

An effective method has been established for the production of L-theanine on an industrial scale, Suntheanine® being the trade name of L-theanine manufactured by the Taiyō Kagaku company. This odourless water-soluble crystalline white powder has a slightly sweet taste and exerts

35 Takashi Yamada, Takehiko Terashima, Tsutomu Okubo, Lekh Raj Juneja and Hidehiko Yokogoshi. 2005. 'Effects of theanine, r-glutamylethylamide, on neurotransmitter release and its relationship with glutamic acid neurotransmission', *Nutritional Neuroscience*, 8 (4): 219–226; Hidehiko Yokogoshi. 2007. 'The effect of some components in green tea on brain neurotransmitters or functions in rats', ICOS, 3, HB-S-07; Hong-Suk Cho, Seung Kim, Sook-Young Lee, Jeong Ae Park, Sung-Jun Kim and Hong Sung Chun. 2008. 'Protective effect of the green tea component, L-theanine on environmental toxins-induced neuronal cell death', *NeuroToxicology*, 29 (4): 656–662; Takashi Yamada, Takehiko Terashima, S. Kawano, R. Furuno, T. Okubo, Lekh Raj Juneja and Hidehiko Yokogoshi. 2009. 'Theanine, γ-glutamylethylamide, a unique amino acid in tea leaves, modulates neurotransmitter concentrations in the brain striatum interstitium in conscious rats', *Amino Acids*, 36: 21.

36 Nina Takamori, Keiko Unno, Daisuke Choba, Kayoko Shimoi, Kazuaki Iguchi and Minoru Hoshino. 2007. 'The effect of theanine on accelerated brain senescence caused by social stress', ICOS, 3, HB-P-205.

37 Takami Kakuda. 2011. 'Neuroprotective effects of theanine and its preventive effects on cognitive dysfunction', *Pharmacological Research*, 64 (2): 162–168.

38 Chieko Inoue, Yasuyuki Sadzuka, Tomomi Sugiyama, Keizo Umegaki, Takashi Sonobe. 2004. 'Promotable effect of theanine on ethanol metabolism', ICOS, 2: 588–589.

39 Arati B. Kamath, Lisheng Wang, Hiranmoy Das, Lin Li, Vernon N. Reinhold and Jack F. Bukowski. 2003. 'Antigens in tea-beverage prime human Vγ2Vδ2 T cells *in vitro* and *in vivo* for memory and non-memory antibacterial cytokine responses', *Proceedings of the National Academy of Sciences*, 100 (10): 6009–6014.

40 Masataka Narukawa, Kanaka Morita and Yukako Hayashi. 2007. 'Taste characterisation of theanine', ICOS, 3, HB-P-808.

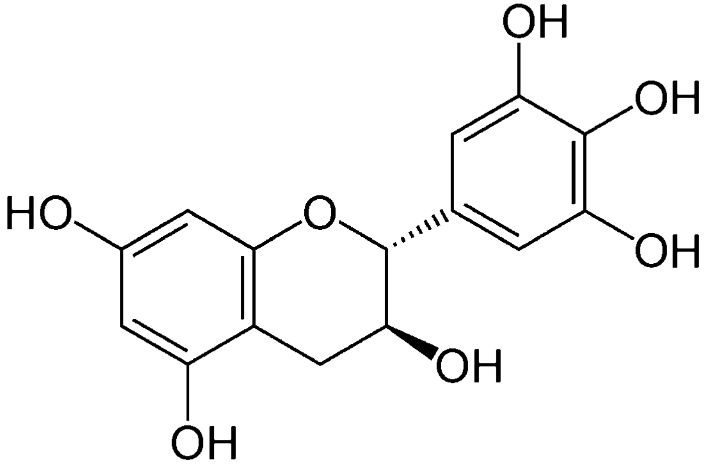

FIGURE 11.5
Gallocatechin (GC)

a relaxing effect that is observed within an hour after oral administration of 200 mg of the product without causing drowsiness, thereby alleviating anxiety and fatigue. From the back to the top of the brain surface, alpha wave production is observed approximately 30 minutes after ingestion of the compound. The sympathetic nervous system is suppressed, and psychological relaxation is promoted, providing physiological relief of premenstrual syndrome, lowering blood pressure and inducing good sleep.[41]

Vitamin P

Tea does not contain just caffeine and theanine, but a panoply of substances which exert salubrious effects. For example, tea contains theobromine $C_7H_8N_4O_2$, which is the bitter alkaloid famously found in cacao. In fact, in the phytochemical production of caffeine by the tea plant itself, theobromine is the last biochemical precursor to caffeine. Theobromine is billed as a vasodilator, a diuretic and a heart stimulant. Tea also contains theophylline, which has the same molecular formula as theobromine, but a different molecular structure. Theophylline is a powerful natural anti-asthmatic drug, which relaxes the smooth muscles of the bronchi and inhibits inflammation, thereby easing respiration.

Tea also contains the minerals iron, potassium, sodium, magnesium, calcium, strontium, copper, nickel and zinc as well as the trace elements phosphorus and molybdenum. Tea contains fluoride, carotenes and saponins. Tea even contains vitamins such as vitamin C, E and K, as well as the vitamins B_1, B_2, B_5, B_7, B_{10} and B_{12}. Of course, vitamin C does not remain intact in boiling water, but when the water is heated to the temperature used to prepare *sencha*, the vitamin C content in the infusion is reduced to 35 % but not eliminated completely. When the *sencha* is used to make rice gruel, then the rice starches exert a further stabilising effect by impeding the denaturation of the vitamin C.[42] Yet the presence of the many other vitamins might surprise those to whom it had not occurred to regard tea as a nutritional supplement. However, tea is particularly bountiful in one particular vitamin, namely vitamin P.

In truth, the natural compounds which from the 1930s to the 1950s used to be called 'vitamin P' are not strictly speaking vitamins at all, but bioflavonoids. In 1772, the English physician John Coakley Lettsom presciently noted that:

41 Tsutomu Okubo, Makoto Ozeki, Nobuyuki Aoi, Akira Kataoka and Lekh Raj Juneja. 2004. 'Research and development of L-theanine', *ICOS*, 2: 763–765.

42 Fukiko Sakamura and Yoshie Kusaka. 2004. 'Stability of L-ascorbic acid in tea gruel and factors affecting its stability', *ICOS*, 2: 493–497.

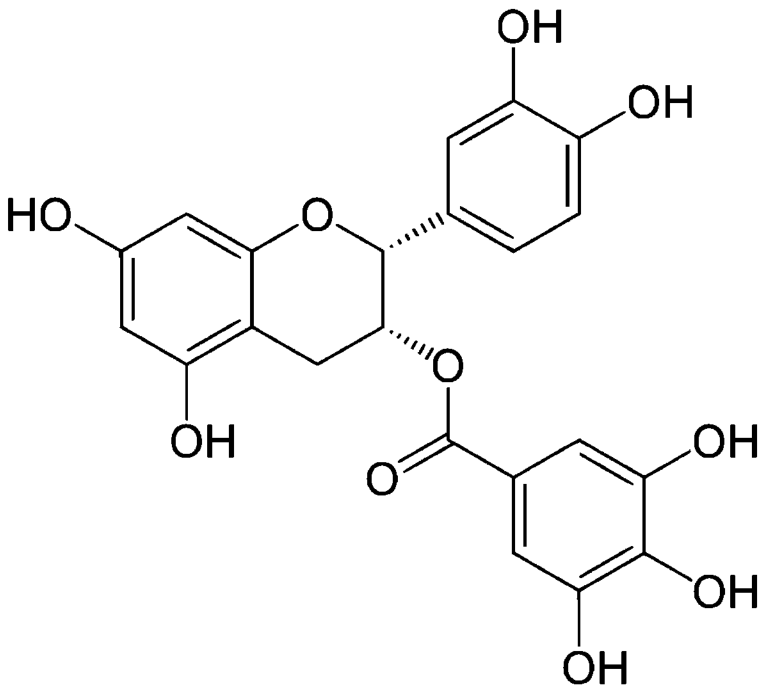

FIGURE 11.6
Epicatechin gallate (ECG)

> The long and conftant ufe of Tea, as part of our diet, makes us forget to enquire whether it is poffeffed of any medicinal properties.[43]

The set of plant metabolites collectively known today as bioflavonoids are a class of polyphenols which act as antioxidants and are reputed to retard cancer and inhibit metastasis. Many of these diverse polyphenolic compounds are undergoing study but most remain to be studied thoroughly, and the precise biochemical mechanisms by which they interact with human physiology and exercise their purported antimutagenic effects have not yet been fully understood. On the other hand, a few studies have even called into question the benefits of antioxidants as well as the deleterious ageing effects of free radicals,[44] suggesting that our understanding of the role of free radicals in human metabolism might reflect current myths in our thinking.

Tea contains many types of bioflavonoids, such as flavones, flavonols, flavonone, isoflavones, gallic acid and propyl gallate, showing antioxidant activity. Three green tea flavonols, quercetin, kæmpferol and rutin, are powerful free radical scavengers, each with its own cardioprotective, anticancer, anti-osteoporotic, anti-inflammatory and analgesic biological activity. The most famous tea bioflavonoids, however, are the catechins. Catechins exert various beneficial effects on human physiology, and they are found especially in green tea. Catechins can make up as much as 30 % of the weight of fresh tea leaves. Green tea retains these natural polyphenols because the tea is steamed and dried or parched and dried immediately after

43 Lettsom (1772: 42).

44 Michelle Keaney and David Gems. 2003. 'No increase in lifespan in *Caenorhabditis elegans* upon treatment with the superoxide dismutase mimetic EUK-8', *Free Radical Biology and Medicine*, 34 (2): 277–282; Michael Ristow, Kim Zarse, Andreas Oberbach, Nora Klöting, Marc Birringer, Michael Kiehntopf, Michael Stumvoll, C. Ronald Kahn and Matthias Blüher. 2009. 'Antioxidants prevent health-promoting effects of physical exercise in humans', *Proceedings of the National Academy of Sciences*, 106 (21): 8665–8670; Goran Bjelakovic, Dimitrinka Nikolova and Christian Gluud. 2013. 'Antioxidant supplements to prevent mortality', *Journal of the American Medical Association*, 310 (11): 1178–1179.

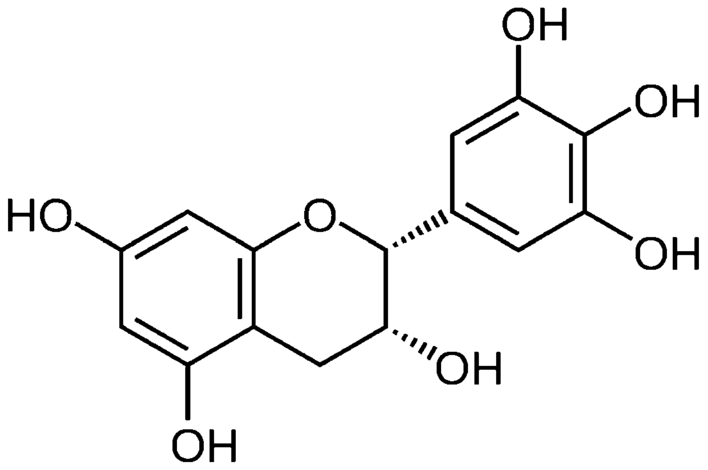

FIGURE 11.7
Epigallocatechin (EGC)

harvesting and not allowed to ferment. By contrast, oxidised teas such as black tea have fewer of the health benefits of fresh green tea.[45]

The five main catechins found in green tea include epicatechin (EC), gallocatechin (GC), epicatechin gallate (ECG), epigallocatechin (EGC) and epigallocatechin gallate (EGCG).[46] All of these polyphenols are being studied, and epigallocatechin gallate $C_{22}H_{18}O_{11}$ is currently being heralded as the most wholesome and effective. A number of studies have shown epigallocatechin gallate to have so many different beneficial effects that some enthusiasts today claim this substance to be as essential to proper cell metabolism as a vitamin. So perhaps the name vitamin P, in vogue from the 1930s to the 1950s, was not altogether off the mark. Of course, the picture emerging today is far more complex, for tea does not contain just one single 'vitamin P', but a diverse repertoire of salubrious substances.

Catechins and Tannins

Many people still say that tea contains 'tannins'. Strictly speaking, this is incorrect because tea cannot be used effectively to tan leather. Our knowledge of the molecular structure of compounds such as catechins and tannins used to be less than it is today, and the lay practice of using such terms interchangeably belies much biochemical complexity and diversity. The catechins or flavan-3-ols are natural phenols with antioxidant properties found in tea and other plants. These compounds constitute the building blocks of the polyphenols called proanthocyanidins. The tannins are, generally speaking, even larger molecules with a more complex structure. These tannins are polyphenolic compounds made up of the same molecular building blocks but usually have an even higher molecular weight. Tannins can be used for tanning.

In Europe, oak bark, chestnuts or nutgalls were amongst the natural materials used to tan leather. When Europeans reached Asia, they gained famili-

45 Highly carcinogenic aflatoxins have been found in some Pǔ'ěr tea by European laboratories. The purported medicinal qualities of this fully oxidised tea may be one of China's medical myths, like the gall bladders of cobras or the bile of bears. On the other hand, each batch of Pǔ'ěr tea can differ radically in chemical composition from the next batch as a consequence of various factors, the principal one being the vast differences between the populations of microbial species that happen to be present in any one given batch of Pǔ'ěr tea and in the next batch. Therefore, further research into the biochemistry of Pǔ'ěr tea tea holds great promise. Current scientific investigations have barely begun to scratch the surface of a genre of tea characterised by great diversity, in which numerous variables are at play the effects of each of which have yet to be understood.

46 Sometimes written more precisely as (−)-epigallocatechin-3-*O*-gallate. Such more descriptively exact chemical labels may, *mutatis mutandis*, likewise sometimes be used for the other catechins as well.

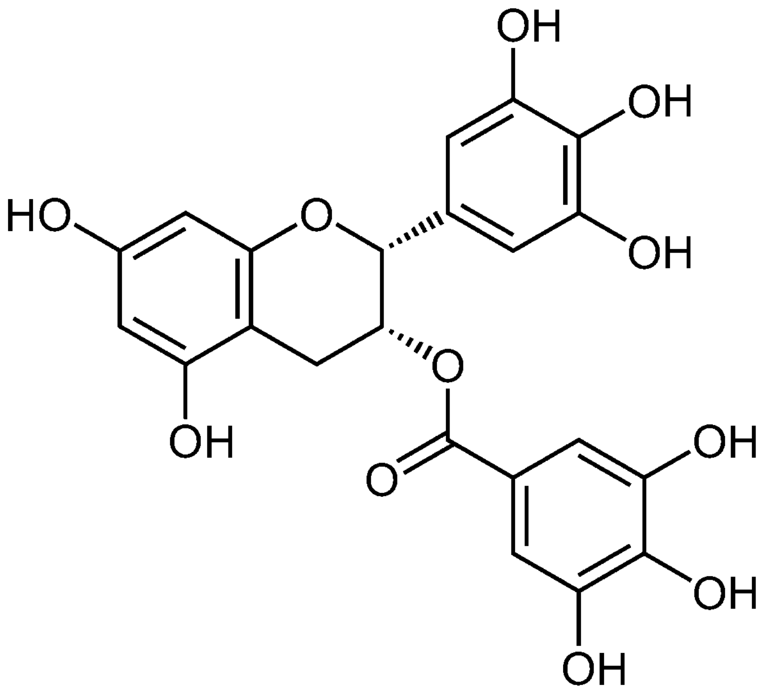

FIGURE 11.8
Epigallocatechin gallate (EGCG)

arity with catechu, a commodity to which the German physician Erhenfried Hagendorn devoted a treatise in 1679. He noted that catechu was often commonly called 'Japanese earth', although he reported that it was in fact nothing of the kind, but instead a product of the vegetable kingdom. Hagendorn likewise asserted that the commodity might not originally come from Japan at all, but probably represented an article of trade transported thither from Southeast Asia.[47] The term *catechu* denotes vegetable tannins for tanning leather, particularly *cutch* or *cachew* [from Malay *katjoe*, now spelt *kacu*], extracted from the heartwood of the Bengal acacia tree *Acacia catechu* or the leaves of the Indonesian liana *Uncaria gambir*, formerly called *Nauclea gambir*. Catechu was used in Asia in the same way that tan or tanbark from oak had traditionally been used in the West to tan leather.

Tannins were first chemically isolated by Armand Jean François Séguin in the 1790s, although the term used in the first published report of 1797 by the French chemists Lelièvre und Pelletier to describe the active substances isolated by Séguin was just the traditional word *tan* 'tan', and not the chemical term *tannin*.[48] The word *tannin* already existed at this time, however, for the word *tannin* already occurs in 1797 and in 1798 in several instalments in the *Annales de Chimie*, authored by various contributors. Amongst these reports was also the 1798 account of the isolation of tannins by yet another French chemist named Proust, in which the terms *tannin* 'tannin' and *principe tannant* 'tanning principle' were used.[49]

47 Erhenfried Hagendorn. 1679. *Ehrenfridi Hagendornii, Medicinæ D. & Pract. Görl. Tractatus Physico-Medicus de Catechu, sive Terra Japonica in vulgus sic dicta, ad normam Academiæ Naturæ-Curiosorum.* Jenæ: Impensis Johannis Bielki, Bibl. Typis Samuelis Krebsii.

48 Claude Hugues Lelièvre und Bertrand Pelletier. 1797. 'Rapport au Comité de Salut public, sur les nouveaux moyens de tanner les cuirs, proposés par le cit. Armand Seguin', *Annales de Chimie, ou Recueil de Mémoires concernant la chimie et les arts qui en dépendent*, XX, 15–77.

49 Le citoyen Descostils. 1798. 'Extrait d'un mémoire de M. Proust, sur le principe tannant', *Annales de Chimie, ou Recueil de Mémoires concernant la chimie et les arts qui en dépendent*, XXV, 225–232.

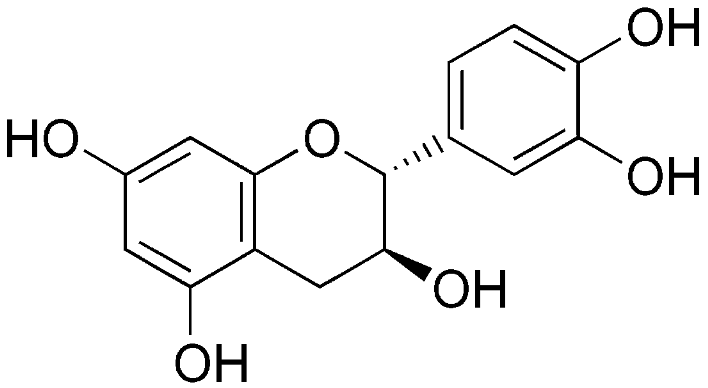

FIGURE 11.9
Catechin

In 1769, when the French chemist Séguin was still just two years old, Lettsom had already observed in his Leiden dissertation that tea turned a deep black when a bit of *ſal martis*, i.e. iron salt or ferrous sulphate, was added.[50] The latter observation was repeated in 1798 by Johannes Frank, the court apothecary at Potsdam, who concluded that tea must therefore contain much **abſtrigirenden Stoff** 'astringent compound', an observation which most every tea drinker had presumably already been able to make for himself.[51] In 1811, Christoph Heinrich Pfaff explained the French word « *tannin* » in German as *das gerbende Prinzip, der Gerbestoff* 'the tanning principle, the tanning compound'.[52]

In 1821, Friedlieb Ferdinand Runge isolated a white crystalline compound from *Acacia catechu* that was probably epicatechin (EC), which he called **Catechu-Gerbsalz** 'catechu tanning salt'.[53] In 1831, Runge's former doctoral dissertation supervisor, Johann Wolfgang Döbereiner, carried out a study of the crystalline 'tannin salt' first isolated by Runge. In 1832, Theodor Friedrich Ludwig Nees von Esenbeck isolated catechin, which he identified as the principle in catechu. He called the substance *catechin*. Nees von Esenbeck also proposed the name *nauclein* as an alternative name because the compound was likewise prevalent in the leaves of the liana that was then still called *Nauclea gambir*.[54]

> Was den Namen dieses neuen Stoffes betrifft, so finden wir den des *Gerbesalzes* nicht passend, weil der Stoff so schwach auf den Leim wirkt, und wollen lieber den Namen *Catechin* oder *Nauclein* vorschlagen, weil er in den Blättern der *Nauclea gambir* in so reichlicher Menge enthalten ist.[55]

> As for the name of this new compound, we find the name of 'tannin salt' to be unsuitable because the substance interacts so weakly with the fixative, and we therefore wish to propose the name *catechin* or *nauclein*, since this compound is contained in such copious quantities in the leaves of *Nauclea gambir*.

In 1835, the Dutch chemist Gerardus Johannes Mulder determined that green tea contained higher concentrations of *looistoffen* 'tannins' than black

50 Lettsom (1769: 9).

51 **Johannes Frank**. 1798. « **Ueber die** Thea bohea **und** viridis », 5. **Aufsatz**, *Berliniſches Jahrbuch für die Pharmacie und für die damit verbundenen Wiſſenſchaften auf das Jahr 1798*. Berlin: bey Ferdinand Oehmigke dem älteren.

52 Christoph Heinrich Pfaff in 1811. *System der Materia Medica nach chemischen Principen*. Leipzig: Friedrich Christian Wilhelm Vogel (p. 144).

53 **Friedlieb Ferdinand Runge. 1821. Neueste Phytochemische Entdeckungen zur Begründung einer wiſſenſchaftlichen Phytochemie, Zweyte Lieferung. Berlin: G. Reimer** (p. 245, and facing p. 253).

54 Theodor Friedrich Ludwig Nees von Esenbeck. 1832. 'Ueber Katechu und die darin enthaltene eigenthümliche krystallinische Substanz', *Buchner's Repertorium für Pharmacie*, XLIII: 337–353.

55 Nees von Esenbeck (1832: 350).

tea, based on chemical analyses of *Congo* tea, or Hokkien *kong-hu* 工夫 [kɔŋ ˧ hu ˧] tea, produced both in China and in Java vs. *Hijsant* 'hyson', or Cantonese *hei¹ceon¹* 熙春 [hei̯ ˥ tsʰɵn ˥] tea, produced in China and Java.[56] In 1847, Friedrich Rochleder in Vienna demonstrated the similarity between the *Boheasäure* 'boheic acid' and *Gerbsäure* 'tannic acid' found in tea and oak tannins.[57] In 1867, Heinrich Hlasiwetz discovered that tea contained gallic acid, oxalic acid and the compound quercetin, a polyphenol that had previously been identified in the eastern North American black oak *Quercus velutina*, formerly known as *Quercus tinctoria*, whence the name of the substance.[58]

Beginning in 1912, Karl Johann Freudenberg conducted numerous studies on the chemical structure of catechins and tannins together with his colleagues.[59] In the early 1920s, Freudenberg determined that the catechin in *Acacia catechu* is mainly the isomer (−)-epicatechin, whilst the catechin in *Uncaria gambir* is mainly the isomer (+)-catechin.[60] Catechins were first isolated from

56 Gerardus Johannes Mulder. 1835. 'Scheikundig onderzoek van Chinesche en Java-thee', *Natuur- en Scheikundig Archief*. Rotterdam: P.H. van den Heuvel (jaargang 1835, blz. 290–386); Gerardus Johannes Mulder. 1838. 'Chemische Untersuchung des chinesischen und javanischen Thees', *Annalen der Physik und Chemie*, CXIX (1): 161–180, and CXIX (4): 632–651.

57 Friedrich Rochleder. 1847. 'Ueber die Boheasäure und Gerbsäure der Blätter von *Thea bohea*', *Justus Liebigs Annalen der Chemie und Pharmacie*, 63 (2): 202–212.

58 In 1867, Heinrich Hermann Christian Hlasiwetz und G. Malin. 1867. 'Ueber die Bestandtheile des Thees', *Journal für practische Chemie*, 101 (1): 109–113; also *Chemisches Centralblatt*, Neue Folge 12 (23).

59 Emil Fischer und Karl Freudenberg. 1912. 'Über das Tannin und die Synthese ähnlicher Stoffe', *Berichte der deutschen chemischen Gesellschaft*, 45 (1): 915–935; Emil Fischer und Karl Freudenberg. 1912. 'Über das Tannin und die Synthese ähnlicher Stoffe, II', *Berichte der deutschen chemischen Gesellschaft*, 45 (2): 2709–2726; Emil Fischer und Karl Freudenberg. 1913. 'Über das Tannin und die Synthese ähnlicher Stoffe, III. Hochmolekulare Verbindungen', *Berichte der deutschen chemischen Gesellschaft*, 46 (1): 1116–1138, Emil Fischer und Karl Freudenberg. 1914. 'Über das Tannin und die Synthese ähnlicher Stoffe, IV', *Berichte der deutschen chemischen Gesellschaft*, 47 (3): 2485–2504; Karl Freudenberg. 1920. 'Chlorogensäure, der gerbstoffartige Bestandteil der Kaffeebohnen', *Zeitschrift für angewandte Chemie*, 34 (45): 247–248, Karl Freudenberg. 1920. 'Phloroglucin-Gerbstoffe und Catechine. Konstitution des Gambir-Catechins', *Berichte der deutschen chemischen Gesellschaft*, 53 (8): 1416–1427; Karl Freudenberg und Hans Walpuski. 1921. 'Der Gerbstoff der Edelkastanie', *Berichte der deutschen chemischen Gesellschaft*, 53 (2): 232–239; Karl Freudenberg, Otto Böhme and Alfred Beckendorf. 1921. 'Raumisomere Catechine', *Berichte der deutschen chemischen Gesellschaft*, 54 (6): 1204–1213; Karl Freudenberg and Erich Vollbrecht. 1922. 'Der Gerbstoff der einheimischen Eichen', *Berichte der deutschen chemischen Gesellschaft*, 55 (8): 2420–2423; Karl Freudenberg and Wilhelm Scilasi. 1922. 'Zur Kenntnis des chinesischen Tannins', *Berichte der deutschen chemischen Gesellschaft*, 55 (8): 2813–2816; Karl Freudenberg, Otto Böhme and Ludwig Purrmann. 1922. 'Raumisomere Catechine, II', *Berichte der deutschen chemischen Gesellschaft*, 55 (6): 1734–1747; Karl Freudenberg and Ludwig Purrmann. 1923. 'Raumisomere Catechine, III', *Berichte der deutschen chemischen Gesellschaft*, 56 (5): 1185–1194; Karl Freudenberg und Ludwig Purrmann. 1924. 'Raumisomere Catechine IV', *Justus Liebigs Annalen der Chemie und Pharmacie*, 437: 274–285; Karl Freudenberg and Hans Fikentscher. 1924. 'Über das 3,4-Dimethoxyphenylpyrazolin aus Catechin', *Justus Liebigs Annalen der Chemie und Pharmacie*, 440: 36–38; Karl Freudenberg and Franz Blümmel. 1924. 'Hamameli-tannin', *Justus Liebigs Annalen der Chemie und Pharmacie*, 440: 45–59; Karl Freudenberg, Hans Fikentscher and Wilhelm Wenner. 1925. 'Die Konstitution des Catechins', *Justus Liebigs Annalen der Chemie und Pharmacie*, 442: 309–322; Karl Freudenberg and Max Harder. 1927. 'Synthesen von Abkömmlingen des Catechins', *Justus Liebigs Annalen der Chemie und Pharmacie*, 451: 231–222; Karl Freudenberg, Hans Fikentscher and Max Harder. 1925. 'Abbau- und Aufbauversuche am Catechin', *Justus Liebigs Annalen der Chemie und Pharmacie*, 441: 157–180; Karl Freudenberg, Gino Carrara and Ernst Cohn. 1926. 'Eine Umlagerungsreaktion des Catechins', *Justus Liebigs Annalen der Chemie und Pharmacie*, 446: 87–95; Karl Freudenberg und Alfred Kammüller. 1927. 'Übergange aus der Gruppe der Flavone in die des Catechins', *Justus Liebigs Annalen der Chemie und Pharmacie*, 451: 209–213.

60 Karl Freudenberg. 1920. *Die Chemie der natürlichen Gerbstoffe*. Berlin: Julius Springer; Karl Freudenberg. 1921. 'Zur Kenntnis des Catechins', *Zeitschrift für angewandte Chemie*, 34: 247–248; Karl Freudenberg. 1933. *Tannin, Cellulose, Lignin*. Berlin: Julius Springer.

green tea in Tōkyō in 1929 by Tsujimura Michiyo 辻村みちよ,[61] who subsequently isolated epicatechin gallate (ECG) from green tea in 1930,[62] and then isolated epigallocatechin (EGC) from green tea in 1934.[63] Only after the Second World War, in 1948, was epigallocatechin gallate (EGCG) isolated from green tea by Alan Edwin Bradfield, research officer at the Indian Tea Association in London.[64] In the 1960s and 1970s, the biochemical structure of theaflavins and thearubigins in black tea came gradually to be understood as well as the pathways by which these substances were derived from the catechins present in green tea.

In tea, the total amount of catechins contained in young tea leaves decreases to half in mature leaves that are two to three months old, and to one third in tea leaves that are ten to twelve months old. Similarly, the total amount of caffeine contained in young tea leaves decreases to half in mature leaves that are two to three months old, and to one seventh in tea leaves that are ten to twelve months old.[65] Catechins are located in the central vacuoles of tea mesophyll cells. Within these vacuoles, the tea catechins are not evenly distributed in the lumen of the vacuoles but cluster as aggregates, and these aggregates grow smaller during artificially induced senescence.[66]

About one third of the catechins contained in green tea are absorbed through the ileal portion of the small intestine, and two thirds of catechin absorption occur in the colon.[67] Catechins and epicatechins are highly bioavailable and are absorbed and excreted in quantities in excess of that of other flavonoids, with the possible exception of isoflavones.[68] The probable metabolic route taken by epigallocatechin gallate, as suggested by one study, is that the compound is degraded in the digestive tract to EGC-M3, i.e. 4-hydroxy-5-(3′-,5′-dihydroxyphenyl) valeric acid. One part of this substance is absorbed directly and subjected to sulphate conjugation in the body and then converted to EGC-M4 sulphate,

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61 Michiyo Tsujimura. 1929. 'On tea catechin isolated from green tea' (Paper № 190), *Scientific Papers of the Institute of Physical and Chemical Research*, 10: 253–262; also published as: Michiyo Tsujimura. 1930. 'On tea catechin isolated from green tea', *Bulletin of the Agricultural Chemical Society of Japan*, 6 (6–9): 62–69.

62 Michiyo Tsujimura. 1931. 'On the constitution of tea tannin' (Paper № 293), *Scientific Papers of the Institute of Physical and Chemical Research*, 15: 155–160; also published as: Michiyo Tsujimura. 1931. 'On the constitution of tea tannin', *Bulletin of the Agricultural Chemical Society of Japan*, 7 (1–3): 23–28.

63 Michiyo Tsujimura. 1934. 'Isolation of a new catechin, tea catechin II or gallo-catchin from green tea' (Paper № 506–508), *Scientific Papers of the Institute of Physical and Chemical Research*, 24; also published as: Michiyo Tsujimura. 1934. 'Isolation of a new catechin, tea catechin II or gallo-catchin from green tea', *Bulletin of the Agricultural Chemical Society of Japan*, 10 (7–9): 140–147.

64 Alan Edwin Bradfield and M. Penney and W.B. Wright. 1947. 'The catechins of green tea. Part I', *Journal of the Chemical Society*, 1947: 32–36; Alan Edwin Bradfield and M. Penney. 1948. 'The catechins of green tea. Part II', *Journal of the Chemical Society*, 1948: 2249–2254; cf. Nakagawa Muneyuki. 2015. *The History of Tea Components*. Pretoria: University Editors (pp. 67–74).

65 Ryoyasu Saijo, Miyuki Kato and Yoshiyuki Takeda. 2004. 'Changes in the contents of catechins and caffeine during tea leaf development', *ICOS*, 2: 251–254.

66 Yuji Moriyasu, Kanako Yano, Yuko Inoue and Takao Suzuki. 2004. 'The presence of catechin aggregates in tea leaves and their metabolism during dark-induced premature senescence', *ICOS*, 2: 276–278.

67 Amanda Stewart, Daniele del Rio, William Mullen and Alan Crozier. 2004 'Phenolics in green tea: Human ileostomy study of absorption and excretion', *ICOS*, 2: 381–384.

68 Alan Crozier, Indu B. Jaganath and Michael N. Clifford. 2009. 'Dietary phenolics: chemistry, bioavailability and effects on health', *Natural Product Reports*, 26 (8): 1001–1043; Angelique Stalmach, Stéphanie Troufflard, Alan Crozier and Maurio Serafini. 2009. 'Absorption, metabolism and excretion of Choladi green tea flavan-3-ols by humans', *Molecular Nutrition and Food Research*, 53 (Supplement 1): 44–53; Daniele del Rio, Luca Calani, Chiara Cordero, Sara Salvatore, Nicoletta Pellegrini and Furio Brighenti. 2010. 'Bioavailability and catabolism of green tea flavan-3-ols in humans', *Nutrition*, 26 (11/12): 1110–1116; Suri Roowi, Angelique Stalmach, William Mullen, Michael E.J. Lean, Christine A. Edwards and Alan Crozier. 2010. 'Green tea flavan-3-ols: colonic degradation and urinary excretion of catabolites by humans', *Journal of Agricultural and Food Chemistry*, 58 (2): 1296–1304.

i.e. 5-(3′-,5′-dihydroxyphenyl)-γ-valerolactone sulphate. Another part undergoes lactonisation and glucronisation to form EGC-M4 glucronide, i.e. 5-(3′-,5′-dihydroxyphenyl)-γ-valerolactone glucronide. Both of these metabolites are then excreted in the urine.[69]

In a comparison of the six Chinese colours of tea, the presence of free radical scavenging compounds found per unit of volume of prepared tea is highest in green tea. Only 28% of this same amount is available in a comparable cup of white tea, whereas around 25% of this amount is found in a cup of oolong tea, 17% in a cup of yellow tea, 11% in a cup of 'red' or black tea, and just 4% in a comparable cup of brewed dark or post-fermented tea. Vitamin C is only present in appreciable amounts in green tea.[70] Japanese green tea contains considerable amounts of bioavailable vitamin B_{12} as well. An increased consumption of green tea is associated with decreased serum concentrations of total cholesterol and triglycerides and a reduced atherogenic index in the blood plasm.[71] Tea catechins have been shown to act as potent selective inhibitors of cholesterol biosynthesis.[72]

Catechins in green tea oxidise to form the more complex thearubigins. Both green tea catechins and black tea thearubigins are broken down into hippuric acid excreted in the urine. A large fraction of green and black tea flavonoids is not absorbed but may be metabolised by the bacterial flora in the large intestine.[73] Green and black tea contain about thirty distinct phenolic compounds with antioxidant properties, ranging from simple phenolics to complex thearubigins. The antioxidant capacity of green tea is due principally to the epigallocatechin gallate and epigallocatechin which it contains, whereas the antioxidant capacity of black tea has been measured to be about 35% less than that of green tea due to high molecular weight compounds, the yellow-coloured theaflavins and the reddish thearubigins.[74]

New polymeric polyphenols have recently been synthesised on the basis of natural tea polyphenols through enzymatic oxidative coupling and polycondensation with aldehydes. Epigallocatechin gallate comprises roughly one third of the solids contained in and extractable from green tea. The synthesised poly-epigallocatechin gallates show significantly higher free radical scavenging ability against superoxide anions than do the naturally occurring monomeric catechins, and these poly-epigallocatechin gallates also effectively inhibit the enzymatic activity of xanthine oxidase, collagenase, elastase, tyrosinase, urokinase and hyaluronidase.[75]

Fresh *assamica* tea extract has likewise been found to exert an inhibitory effect on tyrosinase activity.[76] Tea catechins also more effectively inhibit intestinal cholesterol uptake after

69 Akiko Tagaki, Daisuke Arai, Sayaka Ishikawa and Fumio Nanjo. 2007. 'Metabolism of tea catechins by rat intestinal flora', *ICOS*, 3, HB-P-501.

70 Naomi Oi, Hiroyuki Sakakibara, Shinji Fujiwara, Chinatsu Ito, Chun Li, Swadesh K. Das, Baiyila Wu and Kazuki Kanazawa. 2004. 'Comparison of tea components among the six great great Chinese teas', *ICOS*, 2: 615–616.

71 Mitsuaki Sano, Yutaka Takhashi, Kyoji Yoshino, Kayoko Shimoi, Yoshiyuki Nakamura, Isao Tomita, Itaro Oguni and Haruo Konomoto. 1995. 'Effect of tea (*Camellia sinensis* L.) on lipid peroxidation in rat liver and kidney: A comparison of green and black tea feeding', *Biological & Pharmaceutical Bulletin*, 18 (7): 1006–1008.

72 Ikuro Abe, Takahiro Seki, Yasuhiko Kashiwagi and Hiroshi Noguchi. 2001. 'Tea catechins as potent and selective inhibitors of cholesterol biosynthesis', *ICOS*, 1 (III): 136–139.

73 Anton Rietveld, Theo Mulder and Hans van Amersvoort. 2004. 'New data on the uptake of flavonoids from tea', *ICOS*, 2: 426.

74 Alan Crozier, Amanda Stewart, William Mullen and Daniele del Rio. 2004. 'High performance liquid chromatography with photodiode array and mass spectrometric analysis of antioxidant phenolic compounds in green and black tea', *ICOS*, 2: 450–453.

75 Hiroshi Uyama, Motoichi Kurisawa, Joo Eun Chung, Young Jin Kim and Shiro Kobayashi. 2004. 'The antioxidant property and enzyme inhibitory activity of polymeric green tea polyphenols', *ICOS*, 2: 511–512.

76 S. Sangsrichan and R. Ting. 2010. 'Antioxidation and radical scavenging activities and tyrosinase inhibition of fresh tea leaves, *Camellia sinensis*', *Science Journal Ubon Ratchathani University*, 1 (1): 76–81.

they have been transformed into their epimers by heat treatment.[77] In this regard, other new synthetic compounds on the basis of naturally occurring compounds contained in tea are being investigated.[78] Catechins, caffeine and theanine can be optimally extracted from tea leaves under acidic conditions, at a pH between 3 and 5.[79] Similarly, column chromotagraphy and other techniques are used to extract theanine and other components from tea,[80] but such methods are of utility to the industrial chemist, not to a tea drinker desirous of brewing a tasty cup of tea. In a similar vein, the extraction of catechins and caffeine from tea leaves, but not necessarily of theanine, can be marginally enhanced by the use of microwaves. Some have seized upon this scientific finding to microwave their tea whilst it is brewing in order to enhance the leaching of catechins into the infusion,[81] though whether this is a good way to brew a savoury cup of tea or, forsooth, the optimal way to enhance overall catechin intake remains an open question.

Theaflavins and Thearubigins

Black tea is the most widely consumed type of tea, accounting for 80% of total worldwide tea consumption, and 1% to 2% of the dry weight of black tea consists of theaflavins. In the manufacture of black tea, tea catechins are degraded to theaflavins and to the substances of high molecular weight known as thearubigins. Theaflavins derive from the oxidation of epigallocatechin (EGC) and epigallocatechin gallate (EGCG) during fermentation, and their production depends on factors such as pH, moisture, temperature, the time of oxidation and the quantity and nature of polyphenol oxidase enzymes present. The principal theaflavins, which are major pigments in black tea, are theaflavin (TF_1), theaflavin-3-monogallate (TF_2A), theaflavin-3′-monogallate (TF_2B) and theaflavin-3,3′-digallate (TF_3), with the latter showing the most potent antioxidative activity.

It may strike us as an irony that lovers of black tea have developed a fondness for an astringency and fragrance caused by the chemical denaturing of some of those very natural compounds which make green tea so healthy. Oolong teas are intermediate in composition, retaining a bit of the original polyphenols and already containing theaflavins and thearubigins. However, theaflavins are themselves healthy compounds which, like the catechins of green tea from which they derive, exhibit antioxidant activity[82] and which have been claimed to help prevent infection by the HIV virus by targeting a particular binding site[83] and to

77 Ikuo Ikeda, Makoto Kobayashi, Tadateru Hamada, Katsumi Imaizumi, Ayurnu Nozawa, Kozo Nagata, Akio Sugimoto and Takami Kakuda. 2004. 'Heat-epimerised tea catechins are more effective to inhibit intestinal cholesterol absorption than tea catechins', *ICOS*, 2: 377–380.

78 Takashi Tanaka, Rie Kusano and Isao Kōno. 1998. 'Synthesis and antioxidant activity of novel amphipathic derivatives of tea polyphenol', *Bioorganic and Medicinal Chemistry Letters*, 8: 1801–1806; Masumi Takemoto, Yasutaka Iwakiri, Ayako Fukuyo, Takako Higashiyama, Tomoko Kawarazaki, Yuki Suzuki, Asuka Sakurada, Kiyoshi Tanaka and Yōichi Aoshima. 2004. 'Efficient synthesis of medicinally interesting compounds with enzymes in *Camellia sinensis* cell cultures', *ICOS*, 2: 586–587.

79 Quan Van Vuong, John B. Golding, Costas E. Stathopoulos and Paul D. Roach. 2013. 'Effects of aquæous brewing solution pH on the extraction of the major green tea constituents', *Food Research International*, 53: 713–719.

80 Li Wang, Li-Hong Gong, Chang-Jian Chen, Han-Bing Han and Hai-Hang Li. 2012. 'Column-chromatographic extraction and separation of polyphenols, caffeine and theanine from green tea', *Food Chemistry*, 131: 1539–1545.

81 Giorgia Spigno and Dante Marco de Faveri. 2009. 'Microwave-assisted extraction of tea phenols: A phenomenological study', *Journal of Food Engineering*, 93: 210–217; Quan Van Vuong, Sing P. Tan, Costas E. Stathopoulos and Paul D. Roach. 2012. 'Improved extraction of green tea components from teabags using the microwave oven', *Journal of Food Composition and Analysis*, 27: 95–101.

82 Douglas A. Balentine. 2001. 'The role of flavonoids in cardiovascular disease', *ICOS*, 1 (III): 84–89.

83 Shuwen Liu, Hong Lu, Qian Zhao, Yuxian He, Jinkui Niu, Asim K. Debnath, Shuguang Wu and Shibo Jiang. 2007.

exhibit antimutagenic properties which may help prevent cancer.[84] One study goes as far as to state categorically that the theaflavins of black tea show just as much free radical scavenging activity as the catechins in green tea.[85] Yet this rather broad claim belies a number of more complex realities.

Experimental evidence has shown that the physiology of theaflavins in black tea and the catechins in green tea do not exert the same physiological effects at the cellular or organismal level.[86] Even the four main theaflavins found in tea show a clear hierarchy of reactivity as antioxidants, as do the catchins in green tea. The hierarchy of antioxidant activity of the four main theaflavins is as follows: theaflavin-3,3′-digallate (TF3) > theaflavin-3-monogallate (TF_2A) = theaflavin-3′-monogallate (TF_2B) > theaflavin (TF_1),[87] and the hierarchy of antioxidant activity for the four main green tea catechins is as follows: epigallocatechin gallate (EGCG) > epigallocatechin (EGC) > epicatechin gallate (ECG) > epicatechin (EC).[88]

The two black tea theaflavins, theaflavin-3-monogallate (TF_2A) and theaflavin-3,3′-digallate (TF_3), were observed to alleviate artificially induced allergic reactions such as cutaneous anaphylaxis, contact dermatitis and oedema in mice.[89] The administration of theaflavins inhibited α-glucosidase. Elevated blood glucose levels effectuated by the administration of sucrose were reduced in the mice and their behaviour was sedated.[90] Theaflavins also occur in black tea in methylated form, but the biological activity of methylated theaflavin derivatives, such as theaflavin3-*O*-(3-*O*-methyl)gallate (TF3MeG) and theaflavin3-*O*-(3-*O*-methyl)gallate,3′-gallate (TF3-MediG), remains unknown.[91]

The amount of newly created theaflavins in a typical Western tea like Assamese black CTC tea and the overall amount of antioxidants are not as great as the amount of catechins lost in the process of black tea manufacture, and the resulting amount of antoxidants in black tea is not as great as the overall levels of antioxidants in green, pouchong and oolong tea. A study conducted on the basis of the same variety of tea from the same harvest shows quite unambiguously that the oxygen scavenging activity of tea is substantially compromised directly in relation to the extent to which the tea has been subjected to oxidation or, in old fashioned tea speak, to fermentation.[92]

'Theaflavin derivatives in black tea and catechin derivatives in green tea inhibit HIV-1 entry by targeting gp41', *Biochimica et Biophysica Acta*, 1723 (1–3): 270–281.

84 Zigang Dong, Wei-ya Ma, Chuanshu Huang and Chung S. Yang. 1997. 'Inhibition of tumor promoter-induced activator protein 1 activation and cell transformation by tea polyphenols, epigallocatechin gallate and theaflavins', *Cancer Research*, 57: 4414–4419.

85 Lai Kwok Leung, Yalun Su, Ruoyun Chen, Zesheng Zhang, Yu Huang and Zhen-Yu Chen. 2001. 'Theaflavins in black tea and catechins in green tea are equally effective antioxidants', *Journal of Nutrition*, 131: 2248–2251.

86 Yusuke Sawai, Yuichi Yamaguchi, Hitoshi Yoshitomi, Jae-Hak Moon, Junji Terao and Kanzo Sakata. 2001. 'Nuclear magnetic resonance analytical approach to clarify the molecular mechanism of the antioxidative and radical scavenging activities of tea catechins using 1,1-diphenyl-2-picrylhydrazyl', *ICOS*, 1 (II): 296–299.

87 Nicholas J. Miller, Cinzia Castelluccio, Lilian Tijburg and Catherine Rice-Evans. 1996. 'The antioxidant properties of theaflavins and their gallate esters—radical scavengers or metal chelators', *Federation of European Biochemical Societies Letters*, 392: 40–44.

88 Yusuke Sawai, Yuichi Yamaguchi, Hitoshi Yoshitomi, Jae-Hak Moon, Junji Terao and Kanzo Sakata. 2001. 'Nuclear magnetic resonance analytical approach to clarify the molecular mechanism of the antioxidative and radical scavenging activities of tea catechins using 1,1-diphenyl-2-picrylhydrazyl', *ICOS*, 1 (II): 296–299.

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92 Su-Chen Ho, Min-Jer Lu, Shan-Jen Chen and Chih-

The finer and greener Darjeeling teas contain significantly more antioxidants than Assamese or Ceylonese black teas. A young, tender and fine Darjeeling loose leaf tea may contain as much antioxidants as a well fermented Formosan oolong. By contrast, the lightly fermented oolong teas contain more than twice as much antioxidants as a well fermented oolong. The highest absolute concentration of antioxidants is found in Japanese green teas such as *sencha*, Chinese green teas such as Dragon Well, Formoson pouchung tea and in lightly fermented oolong teas such as a very fine lightly fermented *tiě guānyīn*.[93]

The quality and quantity of the orange red polymeric polyphenols known as theaflavins largely determine the astringency of black tea and are an important component of its aroma. The salubrious theaflavins that make up the red pigment in black tea account for only about 0.08 % of the constituents of black tea by weight,[94] depending on who is doing the measuring, and how.[95] Whilst theaflavins constitute roughly 10 % of the solids in a typical black tea infusion, between 50 % and 70 % of infused black tea solids are represented by reddish oligomeric thearubigins. The thearubigins in black tea are a heterogeneous group of heavily denatured polymers formed by the oxidation of the catechins in the fresh green tea. Theaflavins and thearubigins exhibit diverse pharmacotherapeutic effects, including hypocholesterolaemic, hypoglycaemic, anti-carcinogenic and anti-atherosclerotic effects.[96]

The regular consumption of black teas, with their overwhelming component of oligomeric thearubigins, has been shown significantly to reduce the risk of cardiovascular disease and alleviate endothelial dysfunction. Tea polyphenols induce detoxifying enzymes, such as glucuronosyl transferases, and eliminate active forms of carcinogens and other toxins, resulting in a reduced cancer risk.[97] In some respects, the theaflavins of black tea seem to exert some specific effects even more strongly than the catechins of green tea.[98] Black tea polyphenols with high molecular weight prolong the life span of the nematode *Caenorhabditis elegans* through their action on the forkhead transcription factor DAF-16. Whether the effects of tea on the mitochondrial activation factor involved has a reproducible and similar effect in humans is of course the question.[99]

Furthermore, tea also contains a group of polyphenols known as flavonol glycosides, such as kæmpferol, quercetin, rutin, aglycones and myricetin.[100] Quercetin and kæmpferol are rhamno-

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diglucosides whose structures have been determined as being quercetin- and kæmpferol-3-O-[β-D-glucopyranosyl-(1 → 3)-α-L-rhamnopyranosyl-(1 → 6)-β-D-glucopyranosides] respectively.[101] If we were to judge these compounds by their free radical trapping ability alone, then *o*-trihydroxyl phenolic or gallo-type compounds, such as ethyl gallate, are superior free radical scavengers than *o*-dihydroxyl phenolic or catechol-type compounds, such as quercetin, whereas ascorbic acid, also known as vitamin C, possesses even more potent antioxidative activity.[102]

Because of the overwhelming abundance of thearubigins in black tea, it is sometimes just as easy to produce theaflavins in a laboratory from catechins than to isolate and extract them from black tea. Likewise, the human body produces theaflavins in the liver when breaking down some of the catechins in green tea. Black teas such as Pǔ'ěr and *tuóchá* 沱茶 from Yúnnán contain more gallic acid than green teas, and this gallic acid is formed especially during piling through the microbial fermentation that is characteristic for the production of dark teas. The antioxidant gallic acid is reputed to have antiviral and antifungal activity and to exhibit cytotoxicity preferentially towards some cancer cells.[103]

As with Pǔ'ěr tea, many of the chemical components of black tea remain to be characterised. The theaflavins, theasinensins and oolongtheanins have been chemically established, but many black tea polyphenols are still unidentified.[104] High levels of chafuroside A and B are detected in some oolong teas and in *hōjicha*, but very low levels are found in most other teas, whereas vitexin and isovitexin occur in all teas as well as in fresh tea leaves. All four flavone C-glucosides appear to exert an anti-inflammatory effect.[105] A rather surprising compound found in tea, albeit only in trace amounts, is nicotine. Nicotine, probably of endogenous origin, is present in tea at an exceedingly low level, however. The nicotine content is lower in tea made from the *sinensis* variety than in tea made from the *assamica* cultivar.[106]

Tea and Cancer

In 739, Chén Cángqì 陳藏器 described *mǐng* 茗 as a panacea that cured numerous ills and discomforts. In 1678, Cornelis Bontekoe praised tea as the most wholesome tonic against many ailments, but warned that it would be folly to elevate tea to the status of a panacea for all ills. In 1702, the poet laureate of England, Nahum Tate, even entitled his poem about tea *Panacea*, and some of the modern literature has begun to suggest that tea in many respects has the properties of a panacea.[107]

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FIGURE 11.10
A pair of *yunomi* 湯呑み, tallish slender teacups, which often come as *meoto chawan* 夫婦茶碗 'his and her teacups' for couples, such as this pair in fine hand painted porcelain

Tea has for centuries been promoted as a longevity medicine. Tea contains numerous catechins, theanine, theaflavins, polysaccharides and theasaponins, and these compounds are the subject of intense biochemical investigation. One of the many claims about tea, and especially green tea, pertain to its purported anti-cancer activity. Epidemiological studies indicate that the epigallocatechin gallate contained in green tea could act to prevent cancer,[108] including breast cancer in women,[109] oesophageal cancer,[110] skin cancer induced by sunshine,[111] prostate cancer,[112] cancer of the bladder,[113] pancreatic and colorectal cancers.[114]

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114 Bu-Tian Ji, Wong-Ho Chow, Ann Wu Hsing, Joseph K. McLaughlin, Qi Dai, Yu-Tang Gao, William J. Blot and

In the 1971, Judah Folkman first observed that new blood vessel growth was required for a tumour to grow over a few cubic millimetres in size in order to supply the tumour with nutrition and oxygen.[115] Investigators have sought to prevent or delay cancer growth by suppressing such neovascularisation. New blood vessel growth or angiogenesis is therefore a topic of cancer therapy research, and it is in this respect that the anti-angiogenic properties of tea catechins are of great interest. Some polyphenols contained in green tea have been found to exert a prophylactic effect against skin cancer because they appear to limit angiogenesis or blood cell growth around potentially cancerous cells. The mechanisms by which green tea polyphenols exert this effect involves inhibiting the vascular endothelial growth factor known as angiogenin as well as compromising the metabolism of matrix metalloproteinases. Specifically the green tea polyphenol epigallocatechin gallate suppresses tumour growth through the inhibition of tumour angiogenesis.[116]

The mechanism in play involves the blocking of the expression of matrix metalloproteinase, thereby suppressing MMP-9 transcriptional activity associated with upstream modulators of AP-1.[117] Consequently, green tea may also protect human skin against the effects of ageing.[118] Aged senescence-accelerated mice show a higher incidence of cancer cell activity and a decline of immune surveillance when compared with young mice, and such mice therefore furnish a better model for studying cancer in ageing humans. When such aged senescence-accelerated mice are intravenously injected with metastatic cells, the consumption of green tea reduces the colonisation of the host by these cells.[119]

Cell signalling pathways that are responsible for maintaining a balance between cell proliferation and cell death have been targeted in cancer research, and the way in which epigallocatechin gallate may modulate such signalling appears to have implications that will prove relevant to cancer management.[120] Tea polyphenols decrease cell proliferation and increase apoptosis and in this way suppress tumours by inhibiting enzyme activities and by blocking signal transduction pathways. The pathway involving mitogen activated protein kinases appears to be principally involved.[121]

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Whilst many researchers have reported the anti-cancer activity of epigallocatechin gallate and its cancer cell specificity, the mechanism by which this effect is obtained is only partially understood. The Fas protein has been identified as a principal target in apoptosis induction by epigallocatechin gallate. Normal cells exhibit a plethora of decoy receptors for this protein, and the lower expression of such decoy receptors in cancer cells may explain their higher sensitivity to apoptosis induction by epigallocatechin gallate.[122]

Epigallocatechin gallate (ECGC) helps prevent cancer by enhancing the faithfulness of DNA replication,[123] blocks the formation of carcinogenic nitrosamines,[124] inhibits skin cancer development by suppressing extracellular signals and cell proliferation by binding to epidermal growth factor receptors in human epidermoid carcinoma cells,[125] and shows bactericidal properties as well.[126] Fresh green tea leaf extract has even been found to suppress the growth of implanted sarcoma tumour cells in mice,[127] and regular green tea intake is associated with reduced incidences of oesophageal, stomach and lung cancer in humans.[128] The intake of green tea has been shown to neutralise much of the carcinogens 2-amino-3,8-dimethylimidazo[4,5-f]quinoxaline (MeIQx) and acrylamide in mice as well as the mutagen nitrosamine in human volunteers.[129]

Green tea catechins and black tea theaflavins induce apoptosis in several human cancerous cell lines *in vitro*. Epigallocatechin gallate specifically causes the induction of G1-phase arrest in human epidermoid carcinoma A431 cells, which is an irreversible process ultimately resulting in apoptotic cell death.[130] Epigallocatechin gallate impairs the adhesion of mouse lung carcinoma 3LL and mouse melanoma B16 cells to extracellular matrix proteins such as fibronectin and laminin by bind-

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FIGURE 11.11
The *matcha* in the traditional *natsume*, ready for brewing a *chawan* full of fragrant green tea, is naturally brimming with catechins and theanine

ing directly to both the fibronectin and laminin. Direct binding of epigallocatechin gallate to the fibronectin receptor β-1 integrin in tumour cells may also inhibit the adhesion of HT-1080 cells to fibronectin,[131] and the adhesion capacity of pancreatic adenocarcinoma cells appeared to be impaired by green tea catechins in a similar fashion.[132]

The green tea polyphenol epigallocatechin gallate inhibits DNA methyltransferase, suppresses DNA methylation and re-expresses the mRNA and protein of four genes in various human cancer cell lines.[133] Epidemiological studies have shown that epigallocatechin gallate prevents carcinogenesis, and *in vitro* studies have demonstrated its anti-proliferative and anti-angiogenic activity. On the cell surface both in the lungs, in the liver and in human leukaemia cells, this anti-cancer activity is mediated by the binding of epigallocatechin gallate to the 67-kDa laminin receptor, chiefly associated with metastasis.[134]

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The same site is thought to mediate the anti-allergic effect of epigallocatechin gallate.[135] Allergens cause specific immunoglobulin E molecules to bind to FcεRI, a high-affinity immunoglobulin E receptor on the surface of human basophilic cells and mast cells, thereby triggering inflammatory mediators such as histamines, cytokines, chemotactic factors and the release of arachidonic acid metabolites.[136] The green tea catechin epigallocatechin gallate suppresses the expression of FcεRI and so alleviates the severity of allergic reactions.[137]

The tea polyphenol strictinin suppresses allergic reactions such as atopic dermatitis, allergic rhinitis, food allergy and asthma that are mediated by immunoglobulin E.[138] Epigallocatechin gallate inhibits infected human and mouse osteoblasts from producing certain cytokines, viz. interleukin 1, interleukin 6, tumour necrosis factor α and the receptor activator of nuclear factor κB ligand. This finding, in combination with epidemiological evidence, suggests that this green tea catechin could play a therapeutic role in inflammatory bone disease.[139]

Epigallocatechin gallate binds to the 67-kDa laminin receptor on the cell surface, which somehow inhibits the release of histamines. Amongst the eight gallated and ungallated catechins, the gallated catechins inhibit the release of histamines from KU812 cells, but the ungallated catechins do not. The gallated catechins are (−)-gallocatechin-3-*O*-gallate, (−)-epicatechin-3-*O*-gallate and (−)-catechin-3-*O*-gallate. This same 67-kDa laminin receptor on the cell surface is strongly expressed in tumour cells, and the purported antimutagenic and anti-cancer activity of epigallocatechin gallate has been imputed to its propensity to bind to this site on the cell surface.[140] The binding of the green tea polyphenol epigallocatechin gallate to this site

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138 Hirofumi Tachibana, Yoshinori Fujimura, Yu Ninomiya, Yusuke Hasegawa, Kazuko Nakayama and Koji Yamada. 2007. 'The molecular basis for the inhibition of immunoglobulin E production by the tea polyphenol strictinin', *ICOS*, 3, HB-P-301.

139 Chih-Hsing Wu, Yi-Ching Yang, Wei-Jen Yao, Feng-Hwa Lu and Jin-Shang Wu. 2002. 'Epidemiological evidence of increased bone mineral density in habitual tea drinkers', *Journal of the American Medical Association*, 162 (9): 1001–1006; Chikara Kohda, Ikuo Ishida, Yoko Yanagawa and Tadakatsu Shimamura. 2007. 'The inhibitory effects of catechins on the production of the receptor activator of nuclear factor κB ligand in osteoblasts', *ICOS*, 3, HB-P-305.

140 Naota Ogawa, Yoshinori Fujimara, Mami Sumida, Koji Yamada and Hirofumi Tachibana. 2007. 'Identification of the epigallocatechin gallate binding site in the green tea polyphenol receptor 67kDa laminin receptor', *ICOS*, 3, HB-P-602.

triggers apoptosis in multiple myeloma cells whilst sparing peripheral blood mononuclear cells.

The mechanism involved probably involves triggering cell death by the activation of acid sphingomyelinase.[141] Epigallocatechin gallate induces apoptosis in cancer cells without affecting normal cells. In multiple myeloma, cell death induced by epigallocatechin gallate is mediated by the overexpression of the 67-kDa laminin receptor on the cell surface. In this process, the cell death mediator has been identified as cyclic guanosine monophosphate through the activation of acid sphingomyelinase,[142] which induces lipid-raft disruption and ceramide production, thereby inhibiting the activation of receptor tyrosine kinases such as epidermal growth factor receptor and insulin-like growth factor 1 receptor.[143]

Through the 67-kDa laminin receptor, epigallocatechin gallate also activates protein phosphatase 2A, which plays a role in the suppression of melanoma cell proliferation, whilst on the other hand the nuclear phosphoprotein SET, encoded by the translocation break point in acute undifferentiated leukaemia, acts as a potent inhibitor of protein phosphatase 2A,[144] and the molecule called eukaryotic translation elongation factor 1A (eEF1A) appears to play a key role in mediating the signalling by epigallocatechin gallate through the 67-kDa laminin receptor.[145] The tea catechin epigallocatechin gallate inhibits the peptidoglycan-induced production of inflammatory cytokines such as tumour necrosis factor α and interleukin 6 and the activation of mitogen activated protein kinase signalling pathway through the 67-kDa laminin receptor.[146] Epigallocatechin gallate is under investigation as a possible candidate for the treatment of the form of acute myeloid leukaemia that is caused by a mutation of the gene coding for the feline McDonough sarcoma oncogene-like tyrosine kinase 3.[147]

Within the cell, the proteasome plays a pivotal role in protein turnover by degrading proteins tagged with ubiquitin into oligo-peptides, which can then be hydrolysed into individual amino acids by several proteases. Three main hydrolytic activities carried out by the proteasome involve the hydrolysis of chymotrypsin, trypsin and peptidylglutamyl. The gallated catechins in tea with their

141 Yoko Goto, Yoshinori Fujimara, Daisuke Umeda, Koji Yamada and Hirofumi Tachibana. 2007. 'Green tea polyphenol epigallocatechin gallate induced cell death pathway through the 67kDa laminin receptor', *ICOS*, 3, HB-P-603.

142 Motofumi Kumazoe and Hirofumi Tachibana. 2013. 'Epigallocatechin-3-*O*-gallate induces cancer-specific cell death via sensing receptor mediated cyclic guanosine monophosphate production', *ICOS*, 5, HB-S-2.

143 Shuhei Yamada, Shuntaro Tsukamoto, Naoki, Ueda, Yuhui, Huang, Takashi Suzuki, Motofumi Kumazoe, Shuya Yamashita, Yoonhee Kim, Koji Yamada and Hirofumi Tachibana. 2013. 'The green tea polyphenol epigallocatechin-3-*O*-gallate induces lipid-raft disruption and receptor the inactivation of tyrosine kinases through ceramide production', *ICOS*, 5, HB-P-28.

144 Yuhui Huang, Shuntaro Tsukamoto, Daisuke Umeda, Shuhei Yamada, Shuya Yamashita, Motofumi Kumazoe, Yoonhee Kim, Kanami Nakahara, Koji Yamada and Hirofumi Tachibana. 2013. 'Identification of the molecules and mode of action involved in the melanoma inhibitory effect of green tea polyphenol epigallocatechin-3-*O*-gallate', *ICOS*, 5, HB-P-16.

145 Daisuke Umeda, Satomi Yano, Koji Yamada and Hirofumi Tachibana. 2007. 'Green tea polyphenol epigallocatechin gallate signalling through the 67kDa laminin receptor', *ICOS*, 3, HB-S-02.

146 Hirofumi Tachibana, Kiyoshi Koga, Yoshinori Fujimara, Koji Yamada. 2004. 'A receptor for green tea polyphenol EGCG', *Nature Structural and Molecular Biology*, 11: 380–381; Eui-Hong Byun, Yoshinori Fujimara, Koji Yamada, Hirofumi Tachibana. 2010. 'TLR4 signalling inhibitory pathway induced by the green tea polyphenol epigallocatechin-3-gallate through 67-kDa laminin receptor', *Journal of Immunology*, 185 (1): 33–45; Toshinori Omura, Eui-Hong Byun, Erika Hanashima, Koji Yamada and Hirofumi Tachibana. 2010. 'The green tea polyphenol epigallocatechin-3-gallate inhibits inflammatory responses induced by peptidoglycan through the 67-kDa laminin receptor', *ICOS*, 4, HB-P-66.

147 Bui Thi Lim Ly, Hoang Thanh Chi, Makoto Yamagishi, Yasuhiko Kano, Yukihiko Hara, Kazumi Nakano, Yuko Sato and Toshiki Watanabe. 2013. 'The inhibition of Feline McDonough Sarcoma oncogene-like tyrosine kinase 3 expression by epigallocatechin gallate in Feline McDonough Sarcoma oncogene-like tyrosine kinase 3 mutated acute myeloid leukaemia cells', *ICOS*, 5, HB-P-1.

ester bonds are suspected to inhibit one of these three activities on the amino side of the scissile bond, namely the chymotrypsin activity of the proteasome selective for amino acids with bulky non-polar side chains. An increasing understanding of these pathways may offer new insights into how epigallocatechin gallate slows down the growth rate of rapidly growing cells by impeding protein turnover.[148] Because proteasome inhibitors are able to induce cell death and arrest tumour growth, tea consumption appears to be correlated with cancer prevention.[149]

Experiments in animal models have demonstrated that epigallocatechin gallate inhibits tumourigenesis. Studies in cell lines have shown that epigallocatechin gallate inhibits enzymatic activity and modulates signal transduction in certain metabolic pathways, binding directly to high-affinity targets and affecting signalling systems to induce apoptosis or suppress tumour growth as well as inhibit cell invasion, angiogenesis and metastasis. Epigallocatechin gallate can either quench or generate reactive oxygen species. Green tea has been demonstrated to decrease oxidative damage to DNA and to increase the elimination of carcinogens in humans.[150] Green tea catechins have been shown to be a safe and effective treatment of premalignant lesions before prostate cancer develops, whilst reducing lower urinary tract symptoms, which suggests that green tea catechins might be useful for treating benign prostate hyperplasia.[151] The apoptotic effect of epigallocatechin gallate can be enhanced with phosphodiesterase V selective inhibitor.[152]

The human epidermis is a multilayered-stratified squamous epithelium. During the differentiation of skin cells or keratinocytes, the keratinocytes cease proliferating and undergo a programmed set of morphological and biochemical changes that result in the formation of terminally differentiated dead cells known as corneocytes. The excessive production of fatty acid synthase is characteristic of most fast growing tissues, adipocytes and quite a number of malignant tumours. The expression of fatty acid synthase induced by epidermal growth factor was found to be suppressed by tea and tea polyphenols, which appear to down-regulate the receptor signal transduction pathways of epidermal growth factor and consequently to inhibit cell lipogenesis and proliferation.[153]

148 Zeno Apostolides. 2004. 'Newly identified cellular targets for EGCG may help explain some of the health properties in green tea', *ICOS*, 2: 402–405.

149 Sangkil Nam, David M. Smith and Q. Ping Dou. 2001. 'Ester bond containing tea polyphenols potently inhibit proteasome activity *in vitro* and *in vivo*', *Journal of Biological Chemistry*, 276 (16): 13322–13330; Kathleen M. Sakamoto. 2002. 'Ubiquitin-dependent proteolysis: its role in human diseases and the design of therapeutic strategies', *Molecular Genetics and Metabolism*, 77: 44–56; Wai Har Lam, Aslamuzzaman Kazi, Deborah J. Kuhn and Tak Hang Chan. 2004. 'A potential pro-drug for a green tea polyphenol proteasome inhibitor: evaluation of the peracetate ester of (−)-epigallocatechin gallate [(−)-EGCG]', *Bioorganic and Medicinal Chemistry*, 12 (21): 5587–5593.

150 Chung S. Yang, Xin Wang, Gang Lu and Sonia C. Picinich. 2009. 'Cancer prevention by tea: Animal studies, molecular mechanisms and human relevance', *Nature Review of Cancer*, 9: 429–439; Chung S. Yang. 2010. 'Tea and cancer prevention: Molecular mechanisms and human relevance', *ICOS*, 4, HB-S-01; Chung S. Yang. 2013. 'Can tea prevent chronic diseases? What are the mechanisms?', *ICOS*, 5, PL-S-1.

151 Saverio Bettuzzi, Maurizio Brausi, Federica Rizzi, Giovanni Castagnetti, Giancarlo Peracchia and Arnaldo Corti. 2006. 'Chemoprevention of human prostate cancer by oral administration of green tea catechins in volunteers with high-grade prostate intraepithelial neoplasia: A preliminary report from a one-year proof-of-principle study', *Cancer Research*, 66 (2): 1234–1240; Saverio Bettuzzi. 2013. 'Prevention of human prostate cancer by tea catechins', *ICOS*, 5, HB-S-1.

152 Motofumi Kumazoe, Kaori Sugihara, Shuntaro Tsukamoto, Yukari Tsurudome, Yuhui Huang, Koji Yamada and Hirofumi Tachibana. 2010. 'Phosphodiesterase V selective inhibitor enhances the pro-apoptotic effect of epigallocatechin-3-gallate by enforcing the epigallocatechin-3-gallate signalling pathway through the 67 LR receptor', *ICOS*, 4, HB-P-67.

153 Jen Kun Lin. 2004 'Fatty acid synthase: An important target of the anti-obesity and cancer chemopreventive effects of green and black teas in rodents', *ICOS*, 2: 401.

FIGURE 11.12
A pair of *yunomi* 湯呑み in cobalt blue striped asbolite or *gosutokusa* 呉須十草

Treatment with the epigallocatechin gallate found in green tea enhances keratinocyte differentiation without perturbing mitochondrial membrane potential whilst triggering the activity of transglutaminases, which are key enzymes enabling keratinocyte cell death and terminal differentiation. Therefore, green tea polyphenols are considered to be important candidate chemopreventive agents for the treatment of a variety of skin diseases, including psoriasis and cancer.[154]

In *in vitro* tissue studies, green tea extract evinced higher efficacy than purified epigallocatechin gallate in killing colon cancer cells, presumably because other catechins contained in the tea extract appear to be assisting the epigallocatechin gallate. Whereas purified epigallocatechin gallate induces cell death mainly by apoptosis, tea extract induced cell death mainly through necrosis. Green tea extract containing epigallocatechin gallate was shown to have a comparable efficacy to that of the chemotherapeutic anti-cancer drugs etoposide and cisplatin in combatting colon cancer. Metastatic colon cancer cells were found to be more susceptible to cell death induced by green tea extract than were primary colon cancer cells.[155]

Epigallocatechin gallate inhibits cell proliferation and induces apoptosis in colorectal cancer by blocking the activation of several receptor tyrosine kinases, including epidermal growth factor receptor, human epidermal growth factor receptor 2, insulin-like growth factor 1 receptor and vascular endothelial growth factor receptor 2. Clinical trials appear to indicate that, after polypectomy, green tea catechins prevent the development of meta-

154 Sivaprakasam Balasubramanian, Tatiana Efimova and Richard L. Eckert. 2002. 'Green tea polyphenol stimulates a Ras, MEKK1, MEK3, and p38 cascade to increase activator protein 1 factor-dependent involucrin gene expression in normal human keratinocytes', *Journal of Biological Chemistry*, 277 (3): 1828–1836; Sivaprakasam Balasubramanian and Richard L. Eckert. 2004. 'Green tea polyphenol and curcumin inversely regulate human involucrin promoter activity via opposing effects on CCAAT/enhancer-binding protein function', *Journal of Biological Chemistry*, 279 (23): 24007–24014; Sivaprakasam Balasubramanian, Michael T. Stumiolo and Richard L. Eckert. 2004. 'EGCG, a green tea polyphenol, induces differentiation of normal human epidermal keratinocytes', *ICOS*, 2: 385–388; Hyung June Kim, Huikyoung Chang, Min-Seuk Lee, Seok Yun Baek, Jin-Ho Lee and Hong Tae Kim. 2013. 'Epigallocatechin-3-*O*-(3-*O*-methyl)gallate induced the differentiation of keratinocytes through klotho gene product activation', *ICOS*, 5, HB-P-54.

155 Kazuko Sakamoto, Jin Il Kim, Yukihiko Hara and Christina L. Chang. 2004. 'Green tea extract is highly comparable to epigallocatechin-3-gallate alone in the cell growth of colorectal adenocarcinoma', *ICOS*, 2: 397–400.

chronous colorectal adenomas, which are the precancerous lesions for colorectal cancer.[156]

In a similar vein, the propensity of both epigallocatechin gallate and the tea flavonoids to bind to the aryl hydrocarbon receptor complex is believed to offer cells some protection against environmental toxins such as dioxins.[157] An *in vitro* study suggested that epigallocatchin gallate may mitigate the toxic effects such as marrow suppression and leukopaenia induced by chemotherapeutic drugs of the class called etoposides that are used to combat lymphomas.[158] Tea consumed by rats increases their levels of cytochrome P450 enzymes and of uridine 5′-diphospho-glucuronosyl transferase, which enhances their capacity to eliminate the carcinogenic heterocyclic amines found especially in well done meat.

Heterocyclic amines were discovered by Sugimura Takashi 杉村隆 (すぎむらたかし) in 1977, and these compounds are associated with the nutritionally linked cancers of the colon, breast, pancreas and prostate. The application of tea polyphenols to the surface of meat before frying decreased the formation of heterocyclic amines, measured in terms of their mutagenicity. Tea polyphenols also inhibit heart disease caused by the formation of reactive oxygen species and by oxidised low-density lipoprotein cholesterol.[159] Epidemiological and laboratory studies indicate that green tea catechins inhibit nitrosamine formation in the stomach and that regular green tea consumption protects against stomach cancer,[160] whilst *in vivo* studies in rats and humans have shown that green tea extract prevents the formation of nitrosamines.[161]

Both *in vitro* and *in vivo* studies indicated that the protective effects of green tea and especially epigallocatechin gallate on the molecular activity of cancers involved the increase or decrease in certain proteins, such as epidermal growth factor receptor, hypoxia inducible factor HIF-1α, tumour protein P53, the apoptosis regulator Bcl-2-associated X protein (BAX), the transcription factor activator protein Ap-1 or nuclear factor NF-kβ. Recent studies have shown that all of these effects could be side effects of a more central mechanism. The metabolic switch in tumourigenesis is instigated by cellular up-regulated reactive oxygen species, such as hydrogen peroxide (H_2O_2) and nicotinamide adenine dinucleotide phosphate ($NADP^+$) in and on the mitochondria.[162]

Tea polyphenols, such as epigallocatechin gallate, mobilise endogenous copper ions in tumour cells, keeping in motion their repeated transition between an oxidised and a reduced state, thereby continuously generating reactive oxygen species through a Fenton reaction. The oxidative DNA damage of the malignant cells generated by the polyphenols consequently induces these cells to

156 Masahito Shimizu and Hisataka Moriwaki. 2013. 'Green tea extracts for the prevention of metachronous colorectal adenomas', *ICOS*, 5, HB-S-3.

157 Itsuko Fukuda, Rie Mukai, Masaya Kawase, Ken-ichi Yoshida and Hitoshi Ashida. 2007. '(−)-epigallocatechin gallate interacts with an aryl hydrocarbon receptor complex', *ICOS*, 3, HB-P-604.

158 Takashi Hashimoto, Chinatsu Ito, Kazuki Kanazawa and Hitoshi Ashida. 2004. 'Protective effect of green tea in etoposide-induced apoptosis in rat thymocytes', *ICOS*, 2: 479–480.

159 John H. Weisburger. 2004. 'Mechanism of induction of detoxifying enzymes by green or black tea, and application to the detoxification of heterocyclic amines', *ICOS*, 2: 37–42.

160 Shuichi Masuda, Shoko Uchida, Yumeko Terashima, Michiyo Furugori, Naohide Kinae. 2004. 'Inhibitory effect of green tea on nitrosation of secondary amine in epidemiological and laboratory studies', *ICOS*, 2: 631–633.

161 Shuichi Masuda, Shoko Uchida, Naohide Kinae and 21st COE. 2007. 'The inhibitory effect of green tea extract on nitrosation of secondary amines in rats and humans', *ICOS*, 3, HB-P-704.

162 Timo M. Buetler, Mathilde Renard, Elizabeth A. Offord, Heinz Schneider and Urs T. Ruegg. 2002. 'Green tea extract decreases muscle necrosis in mdx mice and protects against reactive oxygen species', *American Journal of Clinical Nutrition*, 75 (4): 749–753; Daniela Erba, Patrizia Riso, Alessandra Bordoni, Paola Foti, Pier Luigi Biagi and Giulio Testolin. 2005. 'The effectiveness of moderate green tea consumption on antioxidative status and plasma lipid profile in humans', *Journal of Nutritional Biochemistry*, 16 (3): 144–149.

die. Green tea and particularly epigallocatechin gallate may therefore modulate a fundamental process in carcinogenesis.[163] Epigallocatechin gallate may have other non-specific targets in the cell, but its anti-cancer property is mainly defined by reactive oxygen species accumulation due to catalase inhibition.[164]

One study in a mouse model shows that green tea extract reduces tumour weight and the metastasis of tumour cells.[165] Epigallocatechin gallate, the principal polyphenol in green tea, inhibits the growth of several cancer cell lines via the suppression of phosphorylation of the epidermal growth factor receptor and the subsequent inhibition of downstream signalling pathways. The binding of epidermal growth factor receptor with epigallocatechin gallate has been experimentally confirmed in human epithelial carcinoma A431 cells, where exposure of the cells to epigallocatechin gallate lowered both phosphorylation and protein levels dose-dependently.[166]

In *in vitro* studies, epigallocatechin gallate induces apoptosis in human promyelocytic leukaemia HL-60 cells and many other cancer cell lines, and so a regular intake of this green tea catechin is believed to provide a chemoprotective effect.[167] Some human promyelocytic leukaemia HL-60 cells differentiate into normal cells in which the gene Bc1–2A1 is expressed, inhibiting apoptosis so that epigallocatechin gallate preferentially triggers apoptosis in the cancerous cells.

Tea catechins have been purified and captured by using soybean or tempeh protein.[168] Polyphenon E® is a green tea extract manufactured by the Mitsui Norin company consisting of 63% epigallocatechin-3-gallate (EGCG), 11% epicatechin (EC), 6% epigallocatechin (EGC) and 6% epicatechin-3-gallate (ECG).[169] The optimal oral bioavailability and effectiveness of free catechins is attained when Polyphenon E capsules are taken on an empty stomach after an overnight fast. A dose of Polyphenon E containing up to 800 mg of epigallocatechin gallate is well tolerated.[170]

For healthy individuals it appears to be safe to take epigallocatechin gallate in amounts equivalent to eight to sixteen cups of green tea once a day or in divided doses twice a day for four weeks. An 800 mg dose of Polyphenon E optimises bioavailability.[171] Polyphenon E has been tested in

163 Kazuko Sakamoto. 2010. 'A new insight: A simple action of green tea alters a pathological progression in cancer allergy', *ICOS*, 4, HB-P-05.

164 Sandip Pal, Subrata Kumar Dey, and Chabita Saha. 2014. 'Inhibition of catalase by tea catechins in free and cellular state: A biophysical approach', *Public Library of Science One*, 9 (7): e102460.

165 Chun-Hay Ko, Ke-Wang Luo, Grace G.L. Yue, Kwok-Pui Fung, Ping-Chung Leung and Clara B.S. Lau. 2013. 'Green tea (*Camellia sinensis*) extract exhibited anti-metastasis and anti-osteolysis effects in mouse mammary breast cancer model', *ICOS*, 5, HB-P-58.

166 Tomohiro Maeda, Yoshiki Kubo, Kazuki Kimura, Tomoko Tanaka, Takeshi Ishii and Mitsugu Akagawa. 2010. '(–)-Epigallocatechin-3-gallate inhibits EGF signalling via covalent binding to the EGF receptor', *ICOS*, 4, HB-P-37.

167 Norihisa Okada, Hideaki Tazoe, Takuji Suzuki, Shingo Goto, Akihiro Kaneko and Mamoru Isemura. 2007. 'Diminished epigallocatechin gallate mediated apoptosis in differentiated HL-60 cells', *ICOS*, 3, HB-P-701.

168 Kanji Ishimaru, Kazuyuki Ushijima, Takashi Nozwa, Norie Tanaka and Gen-ichiro Nonaka. 2001. 'Purification of catechins using isolated soybean protein or *tempe* protein', *ICOS*, 1 (II): 280–283.

169 H.-H. Sherry Chow, Yan Cai, David S. Alberts, Iman Hakim, Robert Dorr, Farah Shahi, James A. Crowell, Chung S. Yang and Yukihiko Hara. 2001. 'Phase I pharmacokinetic study of tea polyphenols following single-dose administration of epigallocatechin gallate and Polyphenon E', *Cancer Epidemiology, Biomarkers and Prevention*, 10: 53–58.

170 H.-H. Sherry Chow, Iman A. Hakim, Donna R. Vining, James A. Crowell, James Ranger-Moore, Wade M. Chew, Catherine A. Celaya, Steven R. Rodney, Yukihiko Hara and David S. Alberts. 2005. 'Effects of dosing condition on the oral bioavailability of green tea catechins after single-dose administration of Polyphenon E in healthy individuals', *Cancer Prevention*, 11 (12): 4627–4633.

171 H.-H. Sherry Chow, Yan Cai, David S. Alberts, Iman Hakim, Robert Dorr, Farah Shahi, James A. Crowell, Chung S. Yang and Yukihiko Hara. 2001. 'Phase I pharmacokinetic study of tea polyphenols following single-dose administration of epigallocatechin gallate and Polyphenon E', *Cancer Epidemiology, Biomarkers and Prevention*, 10: 53–58; H.-H. Sherry Chow, Yan

FIGURE 11.13
The front of a packet of Teavigo, measuring 3.5 × 8.5 cm, contained a pleasantly tangy white powder

former heavy smokers with pre-cancerous bronchial lesions to determine its potential in preventing lung cancer.[172] Clinical trials with Polyphenon E have shown that twice daily dosages, each equivalent to an intake of 8 to 16 cups of green tea, are safe to take.[173] Alongside Polyphenon E, a product called Polyphenon B® has been developed comprised of black tea polyphenols. Both products are claimed to exhibit anti-cancer activity.[174]

Another commercial product, Sunphenon® by the Taiyō Kagaku company, is likewise comprised of green tea catechins.[175] The product similarly seeks to render available in a purified form the antioxidant, anti-allergic, anti-carcinogenic and antimicrobial properties of tea catechins that have been demonstrated in numerous animal and human studies.[176] In 2010, the company Dutch State Mines Nutritional Products in Basel conducted a consumer test by making a product called Teavigo® available in the Swiss business and first class departure lounges at Zürich airport in Kloten.

The individual packets of Teavigo contained a pleasantly tangy white powder that could be dissolved in still or sparkling water. The resulting drink was a delicious and wholesome tonic, and the magical powder contained 90 % epigallocat-

Cai, Iman A. Hakim, James A. Crowell, Farah Shahi, Chris A. Brooks, Robert T. Dorr, Yukihiko Hara, and David S. Alberts. 2003. 'Pharmacokinetics and safety of green tea polyphenols after multiple-dose administration of epigallocatechin gallate and Polyphenon E in healthy individuals', *Clinical Cancer Research*, 9: 3312–3319.

172 Stephen Lam, Calum MacAulay, Annette McWilliams, Jean le Riche, Adi Gazdar, Ruisheng Yao, Ming You, Jane Khoury, Ralph Buncher, Chung S. Yang, Yukihiko Hara and Marshall Anderson. 2004. 'Phase II trial of Polyphenon E for the chemoprevention of lung cancer', *ICOS*, 2: 355–359.

173 Iman A. Hakim and H.-H. Sherry Chow. 2004. 'Green tea, Polyphenon E and cancer prevention', *ICOS*, 2: 660–663.

174 Nagini Siddavaram and Chandra Mohan Kurapaty Venkata Poorna. 2007. 'Combinatorial anti-cancer effects of tea polyphenols and bovine lactoferrin *in vitro* and *in vivo*: Molecular mechanistic pathways', *ICOS*, 3, HB-S-09.

175 Lekh Raj Juneja, M.K. Roy, M.P. Kapoor and T. Okubo. 2007. 'Amazing health benefits of green tea components', *ICOS*, 3, HB-S-10.

176 Lekh Raj Juneja, Tsutomu Okubo and Hla Hla Htay. 2004. 'Unlocking the secrets of green tea and its health benefits in humans', *ICOS*, 2: 667–670.

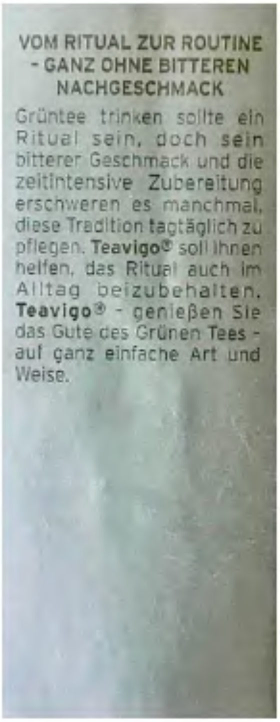

FIGURE 11.14
The back of one of the many packets of Teavigo, which were available for a brief spell in the Swiss business class departure lounge in Zürich, but were not made commercially available

echin gallate (EGCG) extracted from green tea, as opposed to 32% in green tea extract and 5% in green tea leaves. After the consumer test with 'pure and natural EGCG from green tea extract' in the departure lounges, the original Teavigo was never translated into a consumer product. However, Teavigo was manufactured in Basel and used as an additive in several ready-to-drink beverages and food supplements all over the world until the brand was acquired by the Taiyō Kagaku company in 2014.

Although much green tea and black tea extracts are produced on a large scale, particularly in Kenya, today Japan, Switzerland and China are increasingly producing highly purified green tea extracts. Ten new products with considerable market potential were introduced in China in 2013, such as high-purity decaffeinated tea catechins without ethyl acetate, epigallocatechin gallate monomer, tea catechins with a higher ratio of epigallocatechin gallate (EGCG) and epicatechin gallate (ECG), tea catechins with a higher ratio of simple catechins, purified theaflavins, natural L-theanine, methylated epigallocatechin gallate, debittered instant green tea and cold-water-soluble instant tea.[177]

An analysis of cellular metabolites from human acute lymphoblastic leukaemia Jurkat cells showed that epigallocatechin gallate appeared to have comparable activity to the anti-cancer drugs methotrexate and 5-fluorouracil, although apparently involving different metabolic responses.[178] Research on the anti-cancer activity of tea polyphenols has sparked the diversification of research on related compounds. For example, 64 methylated epigallocatechin gallates were prepared to study their potential anti-cancer effects. One set of these methylated derivatives, the 7-OMe epigallocatechin gallates, were found to be comparable to epigallocatechin gallate in their power to inhibit

177 Zhonghua Liu. 2013. 'Industrial isolation of tea components for the world market', *ICOS*, 5, PR-S-3.

178 Yoshinori Fujimura, Daisuke Miura, Hirofumi Tachibana and Hiroyuki Wariishi. 2010. 'High-throughput metabolic profiling of human leukaemia cells in response to the anti-cancer drugs methotrexate and 5-fluorouracil and to EGCG', *ICOS*, 4, HB-P-34.

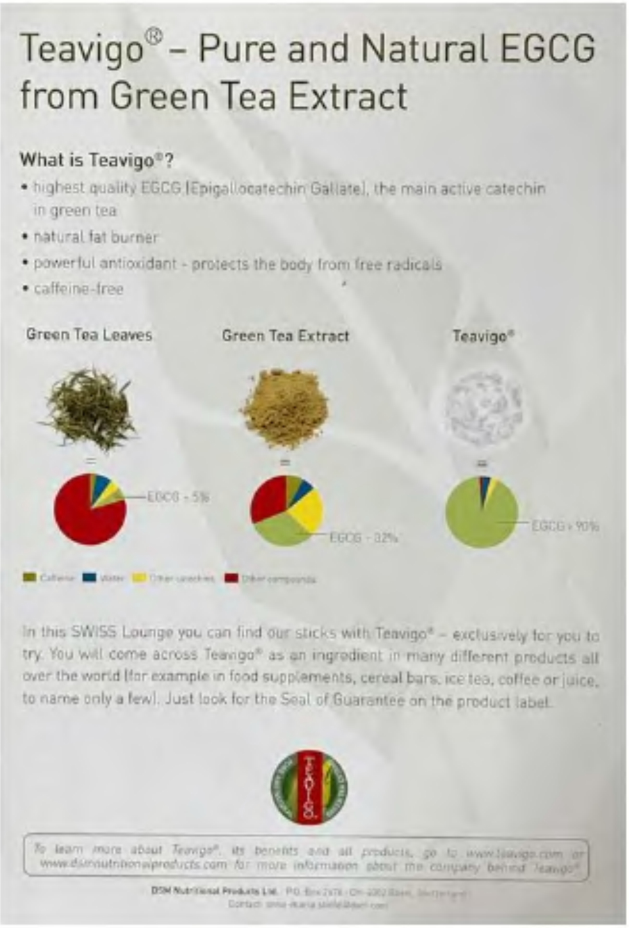

FIGURE 11.15
The Teavigo flyer available in the Swiss business class departure lounge in Zürich in 2010 and 2011

new growth, making them attractive drug candidates because of their enhanced bioavailability.[179]

Some studies have stressed the low bioavailability of flavonoids in human plasma,[180] but one of the mechanisms by which flavonoids may exert their influence could involve the formation of protein carbonyl in human serum albumin.[181] The apparent discrepancy between the concentrations at which catechins become bioavailable through regular green tea consumption and their reported effects reflects how little the mechanism of their operation has been understood. Nonetheless, their anti-cancer effects are observable in epidemiological studies.[182]

What in Bahasa Indonesia is called *benalu teh* is a parasitic plant on coffee and tea plants, traditionally used in Indonesia as a cancer medi-

179 Takashi Takahashi. 2010. 'Solid-phase synthesis of a combinatorial methylated epigallocatechin gallate library and their biological evaluation', *ICOS*, 4, HB-S-04.

180 Silvina B. Lotito and Balz Frei. 2006. 'Consumption of flavonoid-rich foods and increased plasma antioxidant capacity in humans: Cause, consequence or epiphenomenon?', *Free Radical Biology and Medicine*, 41 (12): 1727–1746.

181 Takeshi Ishii, Taiki Mori, Tatsuya Ichikawa, Maiko Kaku, Koji Kusaka, Yoshinori Uekusa, Mitsugu Akagawa, Yoshiyuki Aihara, Takumi Furuta, Toshiyuki Wakimoto, Toshiyuki Kan and Tsutomu Nakayama. 2010. 'Structural characteristics of green tea catechins for formation of protein carbonyl in human serum albumin', *Bioorganic and Medicinal Chemistry*, 18 (14): 4892–4896.

182 Jun-Ichiro Sonoda, Keiko Narumi, Akio Kawachi, Erisa Tomishige and Toshiro Motoya. 2015. 'Green tea catechins: Pharmacokinetic properties and health beneficial effects', *Pharmaceutica Analytica Acta*, 6 (2): 1000333.

cine, and *in vitro* the extract of *benalu teh* was found to induce apoptosis in human leukaemia Jurkat T cells. Tests with *benalu teh* extract in ICR strain mice[183] showed activation of the hepatic drug metabolising phase II enzymes glutathione-S-transferase and quinone reductase.[184] Even the steroidal saponins contained in the roots of *assamica* tea trees have been investigated for their anti-cancer activity in triggering apoptosis in human leukaemic cell lines.[185]

In a similar vein, tea saponin is a triterpene compound extracted from the tea seeds of *Camellia sinensis* or from oil tea seeds of *Camellia oleifera* (*yóuchá* 油茶). Tea saponin comes as a yellow powder that is easily soluble in water, exhibits anti-inflammatory and antibacterial properties, and can also protect tea against pests.[186] Saponins constitute 10 % of the dry weight of tea seeds and show anti-expectorant and anti-inflammatory properties as well as inhibiting the growth of certain yeasts, especially yeasts such as *Zygosaccharomyces rouxii* which interfere with the controlled natural fermentation of miso and soy sauce.[187] Traditionally, the pressed seeds of the oil tea tree *Camellia oleifera* yield the oil used to grease the inner surface of the woks in which tea leaves are parched, and the lipid metabolic pathways in *Camellia oleifera* are now coming to be better understood. A comparison of the genomes of tea and the oil tea tree have identified 3,022 pairs of orthologues, of which 211 exhibit evidence of being under positive selection.[188]

Tea, Obesity and Diabetes

There is some evidence suggesting that components contained in tea, and therefore that the consumption of tea when taken without sugar and milk, might help in reducing body fat, but tea drinking is clearly no substitute for regular exercise or for eating less.[189] In a similar vein, one study suggested that green tea extract suppresses the atrophy of muscle tissue that arises from disuse. Whether or not the finding will be borne out by subsequent research, this tiding should certainly not be used as an excuse to refrain from regular physical exercise.[190]

183 ICR mice are a strain of albino mice sent from Lausanne to the United States in 1926, whose descendants were propagated as a lab animal by the Institute of Cancer Research in Philadelphia from 1946.

184 Takashi Hashimoto, Simona Vicas, Takeshi Suzuki, Kazuo Sambongi and Kazuki Kanazawa. 2007. '*Benalu teh* induces apoptosis in Jurkat T cells', *ICOS*, 3, HB-P-702; Simona Vicas, Mayumi Okamoto, Takashi Hashimoto, Takeshi Suzuki, Kazuo Sambongi and Kazuki Kanazawa. 2007. '*Benalu teh* activates drug metabolising phase II enzymes', *ICOS*, 3, HB-P-703.

185 P. Ghosh, S.E. Besra, G. Tripathi, S. Mitra and J.R. Vedasiromoni. 2006. 'Cytotoxic and apoptogenic effect of tea (*Camellia sinensis* var. *assamica*) root extract (TRE) and two of its steroidal saponins TS1 and TS2 on human leukaemic cell lines K562 and U937 and on cells of CML and ALL patients', *Leukaemia Research*, 30 (4): 459–468.

186 Wu (2004).

187 Katsunori Kohata, Yuji Yamauchi, Tomomi Ujihara and Hideki Horie. 2001. 'Development of a simple preparation method of tea see saponins and investigation of their physiological properties', *ICOS*, 1 (II): 109–112.

188 En-Hua Xia, Jian-Jun Jiang, Hui Huang, Li-Ping Zhang, Hai-Bin Zhang and Li-Zhi Gao. 'Transcriptome analysis of the oil-rich tea plant, *Camellia oleifera*, reveals candidate genes related to lipid metabolism', *Public Library of Science One*, 9 (8): e104150.

189 Akiro Chikama, Tomonori Nagao, Tadashi Hase and Ichiro Tokimitsu. 2004. 'Consumption of tea catechin reduces body fat in humans', *ICOS*, 2: 532–533; Yoko Kanemoto, Guodong Zheng, Yukihiko Hara and Kazutoshi Sayama. 2004. 'Synergistic effects of epigallocatechin gallate and caffeine on fat accumulation and lipid metabolism in mice', *ICOS*, 2: 534–535; Ayumu Nozawa, Kozo Nagata, Takami Kakuda, Mitsuharu Yabune and Yoshitaka Kajimoto. 2004. 'Galloyl-esterified catechins reduces the serum cholesterol level in humans', *ICOS*, 2: 536–537; Y.K. Kim, J.H. Ki and J.E. Park. 2004. 'Modulation of adipogenesis and lipolysis by green tea 3T3-L1 adipocytes', *ICOS*, 2: 539–540; Yukiko Aoki, Takashi Hashimoto, Ken-ichi Yoshida and Hitoshi Ashida. 2004. 'Suppressive effects of catechins on differentiation of 3T3-L1 pre-adipocytes', *ICOS*, 2: 547–548; Ichiro Tokimitsu, Takatoshi Murase and Shinichi Meguro. 2004. 'Effects of tea catechins on lipid metabolism and body fat accumulation', *ICOS*, 2: 664–666.

190 Motoki Murata, Reia Kosaka, Kana Kurihara, Atsushi Nesumi, Mari Maeda-Yamamoto, Koji Yamada and

The anti-obesity action of green tea lies in the modulation of glucose uptake, leading to a decrease in the translocation of the glucose transporter 4 (GLUT4) to the plasma membrane in adipose and muscle tissues and a resulting decreased glucose uptake.[191] Biochemical studies have shed ever more light on the molecular mechanism by which green tea catechins prevent hyperglycaemia and insulin resistance.[192] The green tea polyphenol epigallocatechin gallate contributes to the prevention of hyperglycaemia and to glucose intolerance by promoting glucose uptake through the translocation of glucose transporter 4 to the plasma membrane via two different pathways.

One pathway involves the ability of epigallocatechin gallate to activate phosphoinositide 3-kinase and atypical protein kinase C without affecting the phosphorylation of insulin receptor β. At the same time, a second pathway entails that epigallocatechin gallate activates 5′ adenosine monophosphate-activated protein kinase.[193] Green tea extract inhibits the thrombin-induced phosphorylation of the myosin regulatory light chain, potentially symptomatic of vascular endothelial dysfunction. Some tea cultivars produce this effect more so than others.[194]

The Nagoya-Shibata-Yasuda mouse is an inbred strain which spontaneously develops diabetes mellitus. The daily consumption of green tea catechins helped to prevent the emergence of type 2 diabetes mellitus as Nagoya-Shibata-Yasuda mice

Hirofumi Tachibana. 2013. 'Green tea extract suppresses disuse muscle atrophy in mice', *ICOS*, 5, HB-P-31.

191 Hitoshi Ashida, Takashi Furuyashiki, Hironobu Nagayasu, Hiroaki Bessho, H. Sakakibara, Takashi Hashimoto and Kazuki Kanazawa. 2004. 'Anti-obesity actions of green tea: possible involvements in modulation of the glucose uptake system and suppression of the adipogenesis-related transcription factors', *BioFactors*, 22 (1–4): 135–140; Manabu Ueda, Shin Nishiumi, Hironobu Nagayasu, Itsuko Fukuda, Ken-ichi Yoshida and Hitoshi Ashida. 2008. 'Epigallocatechin gallate promotes GLUT4 translocation in skeletal muscle', *Biochemical and Biophysical Research Communications*, 377: 286–290; Manabu Ueda-Wakagi, Rie Mukai, Naoya Fuse, Yoshiyuki Mizushina and Hitoshi Ashida. 2015. '3-O-Acyl-epicatechins increase glucose uptake activity and GLUT4 translocation through activation of PI3K signalling in skeletal muscle cells', *International Journal of Molecular Sciences*, 16: 16288–16299.

192 Hitoshi Ashida, Takashi Furuyashiki, Hironobu Nagayasu, Hiroaki Bessho, Hiroyuki Sakakibara, Takashi Hashimoto and Kazuki Kanazawa. 2004. 'Anti-obesity actions of green tea: possible involvements in modulation of the glucose uptake system and suppression of the adipogenesis-related transcription factors', *BioFactors*, 22 (1–4): 135–140; Takashi Furuyashiki, S. Terashima, Hironobu Nagayasu, Atsushi Kaneko, Iwao Sakane, Takami Kakuda, Kazuki Kanazawa, Gen-ichi Danno and Hitoshi Ashida. 2003. 'Tea extracts modulate a glucose transport system in 3T3-L1 adipocytes', pp. 224–234 in Fereidoon Shahidi, Chi-Tang Ho, Shaw Watanabe, and Toshihiko Osawa, eds., *Food Factors in Health Promotion and Disease Prevention*. Washington: American Chemical Society; Takashi Furuyashiki, Hironobu Nagayasu, Yukiko Aoki, Hiroaki Bessho, Takashi Hashimoto, Kazuki Kanazawa and Hitoshi Ashida. 2004 'Tea catechin suppresses adipocyte differentiation accompanied by down-regulation of PPARγ2 and C/EBPα in 3T3-L1 cells', *Bioscience, Biotechnology and Biochemistry*, 68: 2353–2359; Shin Nishiumi, Hiroaki Bessyo, Mayuko Kubo, Yukiko Aoki, Akihito Tanaka, Ken-ichi Yoshida and Hitoshi Ashida. 2010. 'Green and black tea suppress hyperglycaemia and insulin resistance by retaining the expression of glucose transporter 4 in muscle of high-fat diet-fed C57BL/6J mice', *Journal of Agriculture and Food Chemistry*, 58 (24): 12916–12923; Manabu Ueda, Takashi Furuyashiki, Kayo Yamada, Yukiko Aoki, Iwao Sakane, Itusko Fukuda, Ken-ichi Yoshida and Hitoshi Ashida. 2010. 'Tea catechins modulate the glucose transport system in 3T3-L1 adipocytes', *Food and Function*, 2: 167–173; Hideaki Miyazaki, Keiko Unno, Hiroyuki Yamamoto, Manami Hara, Kazutoshi Sayama and Minoru Hoshino. 2010. 'Suppressive effect of green tea components on overactive β-cells induced by high-fat diet consumption', *ICOS*, 4, HB-P-10.

193 Hitoshi Ashida. 2013. 'Tea prevents hyperglycaemia through promoting glucose uptake in skeletal and muscle cells', *ICOS*, 5, HB-S-6; Yoko Yamashita and Hitoshi Ashida. 2013. 'The intake of tea prevents postprandial hyperglycaemia by promoting glucose transporter 4 translocation in skeletal muscle', *ICOS*, 5, HB-P-25.

194 Manabu Ueda and Hitoshi Ashida. 2010. 'Green tea prevents hyperglycaemia by preventing expression of insulin resistant-related proteins in adipose tissue of high-fat diet-fed mice', *ICOS*, 4, HB-P-18.

matured.[195] In fully differentiated 3T3-L1 cells, epigallocatechin gallate is observed to inhibit lipogenesis induced by insulin through the inhibition of glycerol-3-phosphate dehydrogenase activity, as measured by glycerol release as a proxy indicator for lipolysis. Whilst epigallocatechin gallate exhibits an antilipogenic and strongly lipolytic effect, the (+)-catechin appears to have the opposite effect.[196] The property of epigallocatechin gallate to induce the translocation of the insulin-stimulated glucose transporter 4 in normal and insulin-resistant L6 myotubes by means of a molecular mechanism that is distinct from that of insulin has been inferred to signify that epigallocatechin gallate could improve hyperglycaemia in type 2 diabetes mellitus.[197]

Elevated fat consumption induces an increase in pancreatic β-cell mass and insulin secretion. Chronically overactive β-cells get exhausted and consequently activate type 2 diabetes. In transgenic ICR mice fed on a high-fat diet and expressing green fluorescent protein only in β-cells, the islets and mass of β-cells increased compared to mice of the same age fed on a control diet. By contrast, the increase in β-cell mass was suppressed in mice on a high-fat diet that also took green tea catechins and caffeine, thus preventing diabetes.[198] The administration of green tea catechins was also observed to reduce cognitive impairment induced by obesity in rats on high-fat diets.[199]

Catechin-enriched green tea resulting in a daily intake of 583 mg of catechins in 240 obese Japanese human subjects decreased body weight, body fat and the body mass index after twelve weeks.[200] Habitual tea drinkers have lower body fat and smaller waist and hip circumferences,[201] and in one study the long-term ingestion of green tea catechins reduced the weight of obese women, but not of the women unknowingly taking a placebo.[202] The anti-lipogenic effect of green tea extract manifests itself in the reduction of white adipose tissue through the decreased activity of two adipose lipogenic enzymes, glucose-6-phosphate dehydrogenase and malic enzyme.[203] The physiological

195 Fumiyo Takabayashi, Hiroyuki Yamamoto, Kazutoshi Sayama and Noboru Hamada. 2007. 'The influence of green tea catechins on type 2 diabetes mellitus of NSY mice', *ICOS*, 3, HB-P-405.

196 Miyako Mochizuki and Noboru Hasegawa. 2007. 'The effect of green tea catechins on the lipid kinetics in differentiated 3T3-L1 cells', *ICOS*, 3, HB-P-407.

197 Manabu Ueda, Itsuko Fukuda, Ken-ichi Yoshida and Hitoshi Ashida. 2007. 'Epigallocatechin-3-gallate promotes the translocation of glucose transporter 4 in normal and insulin-resistant L6 myotubes', *ICOS*, 3, HB-P-401.

198 Keiko Unno, Hiroyuki Yamamoto, Ken-ichi Maeda, Fumiyo Takabayashi, Hirotoshi Yoshida, Naomi Kikunaga, Nina Takamori, Shunsuke Asahina, Kazuaki Iguchi, Kazutoshi Sayama and Minoru Hoshino. 2009. 'Protection of brain and pancreas from high-fat diet: effects of catechin and caffeine', *Physiology and Behaviour*, 96 (2): 262–269.

199 Ken-ichi Maeda, Keiko Unno, Hiroyuki Yamamoto, Hirotoshi Yoshida, Shunsuke Asahina, Kazutoshi Sayama and Minoru Hoshino. 2007. 'The effect of green tea catechins and caffeine on cognitive dysfunction in mice on a high-fat diet', *ICOS*, 3, HB-P-203; Ken-ichi Maeda, Keiko Unno, Hiroyuki Yamamoto, Kazuaki Iguchi and Minoru Hoshino. 2010. 'Intake of green tea catechin and caffeine improves brain function in mice chronically fed a high-fat diet', *ICOS*, 4, HB-P-09; Keiko Unno, Tomokazu Konishi, Shiori Hagiwara, Ken-ichi Maeda, Hiroyuki Yamamoto, Atsushi Takeda, Minoru Hoshino, Akiko Takayanagi and Keiji Wakabayashi. 2007. 'The ingestion of green tea catechins and caffeine suppresses brain dysfunction in mice caused by high-fat diet feeding', *ICOS*, 5, HB-P-19.

200 Tomonori Nagao, Tadashi Hase and Ichiro Tokimitsu. 2007. 'A green tea extract high in catechins reduces body fat and cardiovascular risks in humans', *Obesity*, 15 (6): 1473–1483.

201 Chih-Hsing Wu, Feng-Hwa Lu, Chin-Song Chang, Tsui-Chen Chang, Ru-Hsueh Wang and Chih-Jen Chang. 2003. 'Relationship among habitual tea consumption, percent body fat and body fat distribution', *Obesity*, 11 (9): 1088–1095.

202 Yuko Suzuki, Ayumu Nozawa, Sachiko Miyamoto, Masahito Nishitani, Yoshitaka Kajimoto and Yuko M. Sagesaka. 2010. 'Reduction of visceral fat in overweight female volunteers by long-term ingestion of tea catechins with a galloyl moiety', *ICOS*, 4, HB-P-36.

203 Yuko Ito, Takafumi Ichikawa, Yasuo Morohoshi, Takeshi Nakamura, Yoichi Saegusa and Kazuhiko Ishihara. 2008. 'Effect of tea catechins on body fat accumulation in rats fed a normal diet', *Biomedical Research*, 29 (1): 27–32; Hye-Jin Kim, Seon-Min Jeon, Mi-Kyung Lee,

mechanisms whereby tea catechins suppress the development and fat accumulation in adipocytes involve the suppression of cell proliferation by epigallocatechin gallate by disturbing the cell cycle of adipocytes at the stage of clonal expansion and differentiation by inactivating the forkhead box class O (FoxO1) transcription factor via insulin signalling and stress-dependent mitogen activated protein kinase pathways, resulting in the suppression of adipocyte differentiation.[204]

The interaction of tea polyphenols and exercise was seen when green tea extract prolonged the swimming time of mice by increasing oxygen consumption, fat oxidation and β-oxidation of skeletal muscle, and this interaction yielded a decreased respiratory quotient.[205] Green tea lowered the levels of leptin and retinol binding protein 4 in mice fed on a high-fat diet and increased the expression levels of insulin-like growth factor binding protein 1. One of the ways that green tea improves hyperglycaemia may therefore be by means of the down-regulation of insulin resistance-related proteins.[206] One study found that the combination of epigallocatechin gallate with caffeine had the apparently synergistic effect of selectively activating the enzyme carnitine palmitoyltransferase II in the liver, but not fatty acid synthase or acyl-coenzyme A oxidase.[207]

Tea waste or *chashibu* 茶渋 is a by-product that is lost in the process of making green tea. This by-product of green tea manufacture results from tea scattering dryers and primary tea rolling dryers. The amount of *chashibu* that is generally discarded can amount to between 0.1% and 1% of the tea leaves processed by weight. Although this seems like a trivial amount, in Shizuoka prefecture alone the resulting amount of *chashibu* amounts to 450 tonnes annually. This waste tea has the same catechin content as that of manufactured green tea, which ranges from 11% to 18% by weight for the first flush and 13% to 21% for the second flush. Therefore, 50 tonnes of extra tea catechins could easily be made available at very low cost, an opportunity which no doubt will soon be seized.[208] *Chashibu* exerted similar effects on plasma lipid levels when administered orally to diabetic rats.[209]

Most studies have focused on green tea catechins and particularly on epigallocatechin gallate (EGCG), but one study claims that gallocatechin gallate (GCG), which accounts for less than 1.5% of the catechins in green tea but for nearly half of the catechins in bottled or canned tea drinks, has a stronger effect on lipid metabolism and plasma cholesterol levels than epigallocatechin gallate.[210] Tea catechins have been observed to exert a hypocholesterolaemic effect which results from their

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Un Ju Jung, Su-Kyung Shin, Myung-Sook Choi. 2009. 'Antilipogenic effect of green tea extract in C57BL/6J-Lep$^{ob/ob}$ mice', *Phytotherapy Research*, 23 (4): 467–471; Chikako Sugiura, Shiho Nishimatsu, Tatsuya Moriyama, Sayaka Ozasa, Teruo Kawada and Kazutoshi Sayama. 2012. 'Catechins and caffeine inhibit fat accumulation in mice through the improvement of hepatic lipid metabolism', *Journal of Obesity*, 2012, Article ID 520510.

204 Kazuichi Sakamoto, Hyojun Kim, Megumi Kurosu, Keita Tsuchiya, Ako Hiraishi and Ran Zhao. 2010. '(−)-Epigallocatechin gallate suppresses adipocyte differentiation by disturbing the cell cycle at the clonal expansion', *ICOS*, 4, HB-P-11.

205 Takatoshi Murase, Satoshi Haramizu, Akira Shimotoyodome, Azumi Nagasawa, Ichiro Tokimitsu. 2005. 'Green tea extract improves endurance capacity and increases muscle lipid oxidation in mice', *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, 288 (3): 708–715.

206 Manabu Ueda and Hitoshi Ashida. 2010. 'Green tea prevents hyperglycaemia by preventing expression of insulin resistant-related proteins in the adipose tissue of high-fat diet-fed mice', *ICOS*, 4, HB-P-18.

207 Shiho Nishimatsu and Kazutoshi Sayama. 2007. 'Effects of catechins and caffeine on enzymes related to lipid metabolism in the liver in mice', *ICOS*, 3, HB-P-406.

208 Hiroshi Takano, Tadashi Goto and Yuko Umemori. 2013. 'The amount of waste tea (*chashibu*) in the process of making green tea and its catechin content', *ICOS*, 5, PR-P-22.

209 Shinya Uchida, Miki Kikuchi, Hirokazu Wakuda, Masahiko Ikeda, Akio Yamamoto and Shizuo Yamada. 2007. 'The effect of the repeated oral administration of *chashibu* on plasma lipid levels in diabetic rats', *ICOS*, 3, HB-P-404.

210 Sang Min Lee, Chae Wook Kim, Jung Kee Kim, Hyun Jung Shin and Joo Hyun Baik. 2007. 'The effect of (−)-gallocatechin gallate on cholesterol metabolism', *ICOS*, 3, HB-P-413.

FIGURE 11.16
Japanese tea chest label used in the late 19th and early 20th century
IMAGE COURTESY OF THE CENTRAL JAPAN TEA INDUSTRY PUBLIC INTEREST ASSOCIATION

capacity effectively to reduce cholesterol absorption in the intestine by reducing the solubility of cholesterol in mixed micelles.[211]

Polyphenols with high molecular weight found in oolong tea and black tea were found to increase mitochondrial membrane potential, decreasing visceral fat and blood glucose levels in diabetic mice, a finding which suggests that fermented teas too are beneficial to diabetics.[212] Rat studies suggest that the beneficial effects on cholesterol metabolism and on the accumulation of excess cholesterol in the liver may stem from some of the polysaccharides contained in tea.[213]

Whereas the catechins in green tea may suppress gluconogenesis and so improve glycaemic control[214] and probably exert a beneficial effect

211 Ikuo Ikeda, Youji Imasato, Eiji Sasaki, Mioko Nakayama, Hirosi Nagao, Tadakazu Takeo, Fumihisa Yayabe and Michihiro Sugano. 1992. 'Tea catechins decrease micellar solubility and intestinal absorption of cholesterol in rats', *Biochimica et Biophysica Acta: Lipids and Lipid Metabolism*, 1127 (2): 141–146.

212 Yuki Hagiwara, Takashi Fujihara, Tetsuo Ozawa and Osamu Numata. 2007. 'High-molecular-weight polyphenols from fermented teas decrease blood glucose level and prevent fatty liver', *ICOS*, 3, HB-P-403.

213 Sayaka Ishikawa, Michiko Ohkura and Fumio Nanjo. 2004. 'Effect of green tea polysaccharide fraction on the cholesterol metabolism in rat', *ICOS*, 2: 530–531.

214 Takuya Wakisaka, Atsuko Otsuka, Takatoshi Murase and Ichiro Tokimitsu. 2004. 'Anti-diabetic effects of tea catechins in mice', *ICOS*, 2: 567.

on insulin metabolism,[215] black tea may likewise contain compounds which mitigate hyperglycaemia in diabetics,[216] since the theaflavins in black tea inhibit the activity of the enzyme α-amylase.[217] However, green tea and oolong tea have been measured to exert a much stronger inhibitory activity on α-amylase and α-glycosidase when compared with black tea and Pǔ'ěr tea. Caffeine was observed to reduce the inhibition of α-glycosidase, so that decaffeinated or low-caffeine green tea would consequently be the optimal choice for weight reduction.[218]

In this connection, various experiments have been conducted to reduce the caffeine content of tea. For example, a novel picking method in the third growth period involves the cutting of the tips of the third leaf buds allowing the leaves to grow further. Then in the fourth growth period, the fourth leaf buds are cut at the ends and the third leaves in the lower region are finally picked. Then the final leaf rolling step of the usual green tea manufacturing process is omitted. However, the mechanism by which this procedure reduces the caffeine content in the tea remains to be clarified.[219]

A study conducted in China demonstrated that consumers generally believe that oolong tea helps to prevent or reduce obesity and improves one's complexion. The popular Chinese belief that oolong tea helps to reduce weight is supported by at least one study.[220] The research division at Suntory believes that there are real clinical indications that oolong tea promotes lipid metabolism and lipid absorption in the intestines and reduces cholesterol, but they attribute a major portion of its health benefits to the fact that a large slice of the soft drink market in Japan has since 1981 been taken over by sugar-free bottled or canned teas, especially oolong.[221] These popular beliefs and commercial conjectures appear to be borne out by research on the effects of catechin polyphenols and caffeine on energy expenditure by the body and their role in fat oxidation.[222]

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215 Toshio Maeda, Hirokazu Takatsuka, Masashi Furuya and Masahiro Nakano. 2004. 'Protective effect of green tea on insulin resistance in spontaneous insulin resistant mice', *ICOS*, 2: 568–569; Mari Shimbo and Yoko Fukino. 2004. 'The relationship between daily green tea catechin intake and insulin resistance', *ICOS*, 2: 570–571; Tomohisa Ishikawa, Tomomi Katsura, Daisuke Fukudome and Koichi Nakayama. 2004. 'Effects of catechins in rat pancreatic beta cells', *ICOS*, 2: 572–573.

216 Mayuko Kubo, Iwao Sakane, Shin-ichi Sawamura, Ken-ichi Yoshida and Hitoshi Ashida. 2004. 'Black tea (*Camellia sinensis*) suppresses hyperglycaemia in Streptozotocin-induced diabetic rats', *ICOS*, 2: 561–562.

217 Miho Fujieda, Takashi Tanaka, Hisashi Andō and Isao Kōno. 2004. 'Increase of amylase inhibition activity during tea fermentation and the identification of the active substance', *ICOS*, 2: 563–564.

218 J.K. Lin and S.Y. Lin-Shiau. 2006]. 'Mechanisms of hypolipidemic and anti-obesity effects of tea and tea polyphenols', *Molecular Nutrition and Food Research*, 50: 211–217; Dedong Kong, Jing Wu, Shili Sun, Yuefei Wang and Ping Xu. 2014. 'A comparative study on antioxidant activity and inhibitory potential against key enzymes related to type 2 diabetes of four typical teas', *Journal of Food and Nutrition Research*, 2 (9): 652–658.

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220 L. Yi, J. Xu, Y. Zeng, J. Gao, R. Izumi, Y. Fujiwara, Y. Matsui, K. Takahasi and Y. Kiso. 2007. 'Clinical efficacy of Fujian oolong tea on simple obesity', *ICOS*, 3, HB-P-410.

221 Yohkichi Matsui. 2001. 'Oolong tea and beverage', *ICOS*, 1 (IV): 110–113.

222 A.G. Dulloo, C. Duret, D. Rohrer, L. Girardier, N. Mensi, M. Fathi, P. Chantre and J. Vandermander. 1999. 'Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-hour energy expenditure and fat oxidation in humans', *American Journal of Clinical Nutrition*, 70 (6): 1040–1045; A.G. Dulloo, J. Seydoux, L. Girardier, P. Chantre and J. Vandermander. 2000 'Green tea and thermogenesis: interactions between catechin polyphenols, caffeine and sympathetic activity', *International Journal of Obesity*, 24 (2): 252–258; R. Hursel, W. Viechtbauer, A.G. Dulloo, A. Tremblay, L. Tappy, W. Rumpler and M.S. Westerterp-Plantenga. 2011. 'The effects of catechin rich teas and caffeine on energy expenditure and fat oxidation: A meta-analysis', *Obesity Reviews*, 12: e573–e581.

Tests in mice suggest that fermented teas help to reduce weight, black tea more so than oolong or Pŭ'ěr tea. Yet some researchers claim that Pŭ'ěr tea too reduces glucose levels in the blood and is therefore helpful to sufferers of type 2 diabetes.[223] The mechanism involved evidently likewise promotes the translocation of glucose transporter 4 by stimulating the phosphorylation of phosphoinositide 3-kinase and 5′AMP-activated protein kinase, thus suppressing lipogenesis and ameliorating hyperglycaemia.[224]

Black tea was shown to exert effects similar to those of green tea catechins on hyperglycaemia in mice fed on high-fat diets, also reducing blood glucose and serum lipid levels.[225] Black tea reduces white adipose tissue and plasma lipid levels. In mesenteric white adipose tissue, black tea decreased the gene expression of inflammatory cytokines such as tumour necrosis factor α, interleukin 6 and monocyte chemotactic protein 1, which evoke insulin resistance, whereas black tea increased lipid-metabolising enzymes such as acetyl-CoA carboxylase and carnitine palmitoyltransferase I. Black tea improves lipid metabolism and suppresses insulin resistance through the down-regulation of inflammatory cytokines in white adipose tissue.[226]

Anti-obesity studies have also investigated the potential of loquat or *Camellia japonica*, a related but distinct species from the true tea tree. A black 'tea' was developed from the oxidised leaves of loquat. Out of the 46 compounds that have been identified, most were found to be identical to the constituents of true black tea. However, the different theaflavins do not occur in the same proportions as in true black tea, and the infusion of loquat leaves also contains saponins, camelliosides A and B, ellagitannins and procyanidins.[227] Loquat tea appears to exhibit hypotriacylglycerolaemic and anti-obesity properties through the suppression of both hepatic fatty acid synthesis and post-prandial hypertriacylglycerolaemia by inhibition of pancreatic lipase.[228]

Tea, Cardiac Health, Allergies and Immunity

Tea polyphenols may contribute to a healthy heart by exerting cardiovascular protective effects.[229] Several studies have indicated that a dietary intake of tea flavonoids is correlated with a reduced long-term risk of coronary heart disease.[230] One team

223 Xuanjun Wang, Xiao Ma, Chongye Fang and Jun Sheng. 2013. 'Study on the blood glucose decreasing effect of Pu-erh tea', *ICOS*, 5, HB-S-5.

224 Hiroyuki Fujita and Tomohide Yamagami. 2008. 'Extract of black tea (Pu-ehr) inhibits postprandial rise in serum cholesterol in mice, and with long term use reduces serum cholesterol and low density lipoprotein levels and renal fat weight in rats', *Phytotherapy Research*, 22 (10): 1275–1281; Yan Hou, Wanfang Shao, Rong Xiao, Kunlong Xu, Zhizhong Ma, Brian H. Johnstone and Yansheng Du. 2009. 'Pu-erh tea aquæous extracts lower atherosclerotic risk factors in a rat hyperlipidaemia model', *Experimental Gerontology*, 44 (6–7): 434–439; Lihua Wang and Hitoshi Ashida. 2010. 'Fermented tea ameliorates hyperglycaemia through stimulating the insulin and 5′AMP-activated protein kinase signalling pathways', *ICOS*, 4, HB-P-07.

225 Akihito Tanaka, Shin Nishiumi, Iwao Sakane, Itsuko Fukuda, Ken-ichi Yoshida and Hitoshi Ashida. 2007. 'Black tea prevents hyperglycaemia in high-fat diet fed mice', *ICOS*, 3, HB-P-402.

226 Sayuri Imada and Hitoshi Ashida. 2010. 'Black tea prevents hyperglycaemia and obesity in KK-A^y mice', *ICOS*, 4, HB-P-15.

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228 Shizuka Tamaru, Yuji Miyata, Kei Tamaya, Takashi Tanaka, Toshiro Matsui and Kazunari Tanaka. 2010. 'Hypotriacylglycerolaemic and anti-obesity properties of fermented tea obtained by mixing green tea leaves and loquat leaves', *ICOS*, 4, HB-P-55.

229 M.R. Negrão, E. Keating, A. Faria, I. Azevedo and M.J. Martins. 2006. 'Acute effect of tea, wine, beer and polyphenols on ecto-alkaline phosphatase activity in human vascular smooth muscle cells', *Journal of Agricultural and Food Chemistry*, 54 (14): 4982–4988.

230 M.G.L. Hertog, E.J.M. Feskens, P.C.H. Hollman, M.B. Katan and D. Kromhout. 'Dietary antioxidant flavonoids

of researchers found that a daily high intake of tea, but not of coffee, was associated with a lower risk of myocardial infarction.[231] A rat experiment showed that the oral administration of green tea extract and epigallocatechin gallate limited the extent of infarct size and attenuated the magnitude of myocyte apoptosis in rat hearts exposed to an ischaemia reperfusion injury.[232] Reduced cell death was observed to facilitate improved haemodynamic recovery because epigallocatechin gallate inhibits the activity of the signal transducer and activator of transcription 1 (STAT-1), which otherwise would have promoted more apoptotic cell death in the cardiac myocytes.[233]

Epigallocatechin gallate inhibits cholesterol oxidation and hence atherosclerosis. Green tea catechins and caffeine, when administered, both singly and in combination, to atherosclerosis model mice inhibits atherosclerosis, lowers the mRNA expression of lectin-like oxidised low-density lipoprotein receptor 1 and tumour necrosis factor α in the aorta and increases high-density lipoprotein cholesterol in the blood serum.[234]

Green tea polyphenols and epigallocatechin gallate appear to attenuate the development of left ventricular hypertrophy induced by renal hypertension in rats, although the mechanisms are not understood.[235] Immunohistochemical studies have demonstrated that epicatechin gallate is detectable in atherosclerotic lesions, but not in the normal aorta, and that foam cells derived from macrophages are the target site of epicatechin gallate in the aorta. At the same time, *in vitro* experiments using RAW264 cells suggest that epicatechin gallate could suppress the gene expression of the scavenger receptor CD36 in macrophages, which is a key molecule for foam cell formation.[236]

Some green tea polyphenols act as a leucocyte elastase inhibitor and therefore exert a beneficial effect on chronic inflammations such as rheumatoid arthritis or cystic fibrosis.[237] Green tea catechins have been claimed to mitigate the effect of auto-immune disease.[238] The tea catechins (EGCG, EGC, ECG and EC) fulfil anti-allergic functions, but they do not appear to affect the number of T cells or the levels of the cytokine interleukin 2, a bioactive protein that plays an important immunoregulatory function. However, the flavonols, such as myricetin and quercetin, but especially kæmpferol, do affect the production of interleukin 2.[239]

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and risk of coronary heart disease: the Zutphen Elderly Study', *Lancet*, 342: 1007–1011; M.G.L. Hertog, D. Kromhout, C. Aravanis, H. Blackburn, R. Buzina, F. Fidanza, S. Giampoli, A. Jansen, A. Menotti and S. Nedeljkovic. 1995. 'Flavonoid intake and long-term risk of coronary heart disease and cancer in the seven countries study', *Archives of Internal Medicine*, 155 (11): 381–386, 1184.

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235 Mao Weifeng, Song Van, Han Chi, and Li Ning. 2004. 'Molecular mechanisms of green tea and tea extracts inhibiting cardiac hypertrophy induced by renal hypertensions in rats', *ICOS*, 2: 393–396.

236 Junji Terao and Yoshichika Kawai. 2010. 'The possible role of (−)-epicatechin gallate in the anti-atherosclerotic actions of tea catechins', *ICOS*, 4, HB-S-02.

237 Matthias H. Kreuter & Marco I. Netsch. 2010. 'Die Teepflanze und ihre Werkstoffe', pp. 77–79 in Oppliger (2010).

238 Yoshiaki Sakoda, Kazutoshi Sayama and Naoki Ikegaya. 2004. 'Effect of green tea catechins on the development of auto-immune disease in mice', *ICOS*, 2: 553–554.

239 Kazumi Asai, Sawako Moriwaki and Marl Maeda-

The theaflavin found in black tea and its galloyl esters and isoprenyl gallates were found to be potent inhibitors of platelet aggregation in rabbits by impeding the synthesis of platelet-activating factor (1-alkyl–2-acetyl-sn-glycero-3-phosphocholine), which is a compound that activates numerous types of cells involved in inflammatory and allergic processes, such as neutrophils, mast cells and endothelial cells.[240] Theanine is a precursor of ethylamine, an alkylamine. Since the activation of gamma delta T cells strictly depends on exposure to alkylamines, green tea can help activate this first line of defence that acts within hours against bacterial, viral, and parasitic infection, comprising 2% to 5% of human peripheral blood T cells and expanding up to 50-fold during infection. Green tea enhances immunity without side effects.[241]

The capacity of green tea extract in enhancing the efficacy of older treatments used to treat hepatitis C was formerly under study and had begun to show potentially promising results before an effective cure for hepatitis C became available.[242] More generally, however, epigallocatechin gallate (EGCG), the main constituent of green tea, has been shown to have anti-infective properties, exerting antiviral activity with different modes of action against *Retroviridae*, *Orthomyxoviridae* and *Flaviviridae* as well as against important human pathogens such as the human immunodeficiency virus, influenza A virus and the hepatitis C virus.[243]

Regular green tea consumption could reduce the incidence of influenza in children,[244] and a prospective cohort study of nursing home residents given green tea catechins against a control group likewise suggested that green tea catechins could help to prevent influenza infection.[245] Green tea prevents and otherwise alleviates cold and flu symptoms.[246] A set of fatty acid monoesters with long alkyl chains derived from epigallocatechin gallate (EGCG) inhibits human pathogenic influenza viruses A and B, including the clinically isolated oseltamivir phosphate resistant and amantadin resistant viruses. It was also shown that epigallocatechin gallate monopalmitate strongly inhibited avian influenza A virus in chicken embryos by interacting with the viral proteins responsible for viral attachment to the host cell and thereby inducing morphological changes

Yamamoto. 2004. 'Effect of tea components on cytokine production in human T cells', *ICOS*, 2: 389–392.

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241 Jack F. Bukowski. 2004. 'Drinking tea enhances innate immunity', *ICOS*, 2: 671–673.

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244 Mijong Park, Shinya Kaji, Kumi Matsushita, Toshiro Kitagawa, Kazuhiro Kosuge and Hiroshi Yamada. 2010. 'Association between green tea consumption and incidence of influenza infection among elementary school children: A questionnaire survey', *ICOS*, 4, HB-P-06.

245 Hiroshi Yamada. 2013. 'Clinical effects of green tea components on preventing influenza infection', *ICOS*, 5, HB-S-4.

246 C.A. Rowe, M.P. Nantz, J.F. Bukowski and S.S. Percival. 2007. 'Specific formulation of *Camellia sinensis* prevents cold and flu symptoms and enhances gamma delta T cell function: A randomised, double-blind, placebo-controlled study', *Journal of the American College of Nutrition*, 26 (5): 445–452.

in the viral surface structure, consequently blocking viral infection at an early stage.[247]

The protective effect of catechins on stress ulcer formation was first reported in the 1970s.[248] Now a study on the effect of catechin on gastric mucosal lesions in rats showed that catechins confer a protective effect against gastric mucosal lesions.[249] In rat experiments on colitis, epigallocatechin gallate was shown to have a palliative effect on inflammatory bowel disease by suppression of superoxide generation from colonic tissue.[250] Glucocorticoid-induced gene expression by the antioxidative gallates in green tea is of potential therapeutic interest.[251] Epicatechin gallate (ECG) and epigallocatechin gallate (EGCG) scavenge the over-produced active hypohalous acid generated during inflammations, thereby protecting the integrity of DNA and proteins.[252]

When the tea catechins are heated, then (−)-epigallocatechin-3-*O*-gallate (EGCG) and its *O*-methylated derivative (−)-epigallocatechin-3-*O*-(3-*O*-methyl)gallate (EGCG3″Me) produce their C-2 epimeric isomers (−)-gallocatechin-3-*O*-gallate (GCG) and (−)-gallocatechin-3-*O*-(3-*O*-methyl)gallate (GCG3″Me). In male mice, the oral administration of these heat-derived compounds prevented ovalbumin-induced type I allergy just as effectively as the corresponding original catechins, similarly inhibiting the increase of interleukin 4 and immunoglobulin E levels. These findings show that the C-2 epimerisation of tea catechins by heating does not reduce their anti-allergenic properties.[253]

Vancomycin resistance has appeared in several strains of methicillin-resistant *Staphylococcus aureus*, and inevitably it is just a matter of time before resistance is attested against the newer antibiotics Synercid, Linezolid and Daptomycin. Resistance to methicillin and other β-lactam drugs arises in methicillin-resistant *Staphylococcus aureus* due to the acquisition of a

247 Mikio Nakayama, Kenji Suzuki, Masako Toda, Sachie Okubo, Yukihiko Hara, Tadakatsu Shimamura. 1993 'Inhibition of the infectivity of influenza virus by tea polyphenols', *Antiviral Research*, 21: 289–299; Nobuko Imanishi, Yumiko Tuji, Yuko Katada, Miyuki Maruhashi, Satoko Konosu, Naoki Mantani, Katutoshi Terasawa and Hiroshi Ochiai. 2002. 'Additional inhibitory effect of tea extract of the growth of influenza A and B viruses in MDCK cells', *Microbiology and Immunology*, 46 (7): 491–494; Deba Prasad Nayak and Udo Reichl. 2004. 'Neuraminidase activity assays for monitoring MDCK cell culture derived influenza virus', *Journal of Virological Methods*, 122 (1): 9–15; Jae Min Song, Ki Duk Park, Kwang Hee Lee, Young Ho Byun, Ju Hee Park, Sung Han Kim, Jae Hong Kim and Baik Lin Seong. 2007. 'Biological evaluation of anti-influenza viral activity of semi-synthetic catechin derivatives', *Antiviral Research*, 76:178–185; Shuichi Mori, Shinya Miyake, Takayoshi Kobe, Takaaki Nakaya, Stephen D. Fuller, Nobuo Kato and Kunihiro Kaihatsul. 2008. 'Enhanced anti-influenza A virus activity of (−)-epigallocatechin-3-O-gallate fatty acid monoester derivatives: effects of alkyl chain length', *Bioorganic and Medicinal Chemistry Letters*, 18: 4249–4252; Kunihiro Kaihatsu, Shuichi Mori, Hiroyo Matsumura, Tomo Daidoji, Chiharu Kawakami, Hideshi Kurata, Takaaki Nakaya and Nobuo Kato. 2009. 'Broad and potent anti-influenza virus spectrum of epigallocatechin-3-*O*-gallate-monopalmitate', *Journal of Molecular Genetic*, 3 (2):195–197.

248 W. Lorenz, J. Kusche, H. Barth and C.H. Mathias. 1973. 'Action of several flavonoids on enzyme of histidine metabolism *in vitro*'. pp. 265–269 in Czesław Maśliński, ed. *Histamine: Mechanism of Regulation of the Biogenic Amines Level in the Tissues with Special Reference to Histamine*. Stroudsberg, Pennsylvania: Dowden, Hutchinson and Ross; N.S. Parmar and Shikha Parmar. 1998. 'Anti-ulcer potential of flavonoids', *Indian Journal of Physiology and Pharmacology*, 42 (3): 343–351.

249 Kazuhiro Imatake, Teruaki Matui, Hideki Satou, Yasuyuki Arakawa, Takami Kakuda and Ayumu Nozawa. 2004. 'The protective effect of catechin on gastric mucosal lesions in rats, and its hormonal mechanisms', *ICOS*, 2: 439–441.

250 Miyako Mochizuki, Hayato Shigemura and Noboru Hasegawa. 2004. 'Ameliorative effect of EGCG on acute experimental colitis', *ICOS*, 2: 491–492.

251 Ikuro Abe, Kaoru Umehara, Kiyomitsu Nemoto, Masakuni Degawa and Hiroshi Noguchi. 2004. 'Green tea polyphenols as potent enhancers of glucocorticoid-induced gene expression', *ICOS*, 2: 601–602.

252 Toshihiko Osawa. 2007. 'Tea catechins strongly scavenge the over-produced free radicals during the process of inflammation', *ICOS*, 3, HB-S-11.

253 Kyoji Yoshino, Yuji Yamashita, Toshio Miyase, Eriko Terasaka and Mitsuaki Sano. 2010. 'Epimeric isomers of tea catechins prevent mouse type I allergy', *ICOS*, 4, HB-P-04.

modified penicillin binding protein (PBP2A) to which β-lactams bind only poorly. One of the catechins found in green tea, epicatechin gallate (ECG), abrogates β-lactam resistance in most multi-drug-resistant *Staphylococcus aureus* by sensitising multi-drug-resistant *Staphylococcus aureus* to β-lactam antibiotics through the insertion of a modifier into the bacterial membrane. This insertion of epicatechin gallate (ECG) compromises the synthesis of the cell wall, which is, in part, mediated by the penicillin binding protein.

Moreover, this insertion into the membrane inhibits the export of toxins and proteins that the multi-drug-resistant *Staphylococcus aureus* requires in order to cause infection.[254] The intercalation of epicatechin gallate into the cytoplasmic membrane reduces the efficiency of bacteria, thereby disrupting the secretion of virulence determinants and reducing potential pathogenicity,[255] but the different structures of the bacterial cell wall between bacterial species make it likely that epigallocatechin gallate will show varying efficacy in terms of its antibacterial ability.[256]

Korean researchers have documented that tea catechins extracted from tea leaves retard the growth of the bacteria which cause the Korean dish *kimchi* to ferment. The antimicrobial activity of tea catechins is perhaps just as fascinating as the list of bacteria involved in kimchi fermentation, i.e. *Pediococcus cerevisiae, Leuconostoc mesenteroides, Streptococcus faecalis* (also known as *Enterococcus faecalis*), *Lactobacillus brevis, Lactobacillus plantarum*.[257]

Green tea exerts a beneficial effect on the composition of the intestinal microbiota, increasing the proportion of lactobacilli and bifidobacteria and reducing the relative number of coliform bacteria.[258] Modified (–)-epicatechin gallates are now also under investigation in this regard.[259] The phagocytic activity of macrophages is enhanced when tea polysaccharides, epigallocatechin gallate and epigallocatechin are administered, whereby epigallocatechin evidently enhanced the phagocytic activity through caspase signalling.[260]

In addition to its antimicrobial, antioxidative and hypocholesterolaemic effects, tea affords oral health benefits.[261] Around 1083, Sū Shì 穌軾 (1037–1101), also known as Sū Dōngpō 蘇東坡, wrote in *Dōngpō's Miscellaneous Records* (*Dōngpō zájì* 東坡雜記) that tea helped to prevent tooth decay and to promote oral hygiene. The contention that the drinking of tea promotes dental health is repeated in 1541 during the Míng dynasty by Qián Chūnnián 錢椿年, also known as Gù Yuánqìng 顧元慶 (1487–1565), in his *Tea Discourse* (*Chápǔ* 茶譜).[262]

254 Peter W. Taylor, Patricia Bernal and Paul D. Stapleton. 2007. 'Interactions of (–)-epicatechin gallate and methicillin-resistant *Staphylococcus aureus*', *ICOS*, 3, HB-S-01; Peter W. Taylor, Patricia Bernal, Manuela Cerdán-Calero and Vicente Micol. 2010. 'Disruption of membrane-associated staphylococcal function by epicatechin gallate', *ICOS*, 4, HB-P-14; Peter W. Taylor. 2010. 'Antibacterial properties of tea-derived catechins', *ICOS*, 4, HB-S-03.

255 Peter W. Taylor, Paul D. Stapleton, Saroj Shah and James C. Anderson. 2004. 'Modification of Staphylococci by catechin gallates', *ICOS*, 2: 414–417.

256 Zhi-Qing Hu, Wei-Hua Zhao and Tadakatsu Shimamura. 2004. 'Different susceptibilities of *Staphylococcus* and gram-negative rods to (–)-epigallocatechin gallate', *ICOS*, 2: 578–581.

257 Ji-Hyang Wee and Keun-Hyung Park. 2001. 'Retardation of kimchi fermentation and growth inhibition of related microorganisms by tea catechins', *ICOS*, 1 (IV): 97–99.

258 Abdul L. Molan, John Flanagan and Paul Moughan. 2007. 'Prebiotic activity of green tea *in vitro* and *in vivo*', *ICOS*, 3, HB-P-805.

259 J.C. Anderson, C. Headley, Paul D. Stapleton and Peter W. Taylor. 2005. 'Asymmetric total synthesis of B-ring modified (–)-epicatechin gallate analogues and their modulation of β-lactam resistance in *Staphylococcus aureus*', *Tetrahedron*, 61 (32): 7703–7711.

260 Manami Monobe, Kaori Ema, Yoshiko Tokuda and Mari Maeda-Yamamoto. 2010. 'Enhancement of the phagocytic activity of macrophage-like cells with components derived from green tea (*Camellia sinensis*) extract', *ICOS*, 4, HB-P-21.

261 Christine D. Wu, Peter Lingstrom and James S. Wefe. 2004. 'Tea polyphenols inhibit growth, accumulation and acidogenicity of human dental plaque bacteria', *ICOS*, 2: 423–425.

262 Huáng (2000: 563).

Today we known that the polyphenols in tea may actually exert these claimed beneficial effects on oral hygiene.[263]

Theaflavins and tea polyphenols have been attributed with the inhibition of plaque formation by impeding the activity of glycan transferase so that caries bacteria cannot adhere to the tooth surface. Consequently, theaflavins and tea polyphenols are claimed to prevent dental caries as well as reduce the infectivity of influenza virus. Regular rinsing of the mouth with tea extract inhibits the regrowth, glycolysis and metabolism of cariogenic human supragingival plaque bacteria, such as Streptococci, and *in vitro* studies appear to corroborate that tea polyphenols, including catechins, inhibit the growth of selected oral pathogens associated with dental caries, periodontal disease and halitosis.[264] One *in vitro* study suggests that the polyphenols contained in tea improve the oral bioavailability of drugs by inhibiting intestinal sulphation and glucuronidation metabolism.[265]

Tea and Cognition

Zen practitioners, writers and artists have long professed that tea enhances mental lucidity. Recent studies using just simple black tea have demonstrated that tea also enhances a person's creativity, or—restated using current psychological jargon—tea has been shown to improve performance on both convergent creativity tasks as well as on divergent creativity tasks.[266] Entirely distinct from any cognitive effects exerted by caffeine and theanine are the possible cognitive effects of the polyphenols contained in tea. The catechins in green tea reportedly prevent neurodegenerative diseases such as Parkinson's and Alzheimer's disease in the presence of metal ions.[267] A study of green tea consumption by rats showed, not altogether surprisingly, that the daily intake of green tea builds up the antioxidative potency synergistically and so may prevent degenerative diseases related to oxidative stress.[268]

Another study involving juvenile rats that had been fed on a catechin-rich diet showed enhanced levels of dopamine in the cerebral cortex, which suggested that the mechanism whereby catechins enhance cognitive tasks could instead be related to the effect that catechins exert on the norepinephrinergic and dopaminergic systems.[269] The antioxidative activity of compounds contained in green tea appears to enhance the resilience of the brain in combatting the effects of ageing, such as cerebral atrophy and cognitive dysfunction.[270]

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263 Jeremy M.T. Hamilton-Miller. 2001. 'Anti-cariogenic properties of tea (*Camellia sinensis*)', *Journal of Medical Microbiology*, 50 (4): 299–302; Peter W. Taylor, Jeremy M.T. Hamilton-Miller and Paul D. Stapleton. 2005. 'Antimicrobial properties of green tea catechins', *Food Science Technology Bulletin*, 2: 71–81; Maryam Moezizadeh. 2013. 'Anticariogenic effect of tea: A review of literature', *Journal of Dentistry and Oral Hygiene*, 5 (9): 89–91.

264 Takashi Mizuma, Hiroyuki Kawashima, Marie Tanaka and Masahiro Hayashi. 2004. '(−)-Epigallocatechin gallate, (±)-catechin and tannic acid inhibit sulphation metabolism to enhance intestinal drug absorption: *in vitro* study using Caco-2 cells', *ICOS*, 2: 427–430.

265 Kunihiro Kaihatsu. 2010. 'The inhibition of influenza virus infection by epigallocatechin-3-*O*-gallate (EGCG) fatty acid mono-esters', *ICOS*, 4, HB-S-08.

266 Yan Huang, Yera Choe, Soomin Lee, Enzhe Wang, Yuanzhi Wu and Lei Wang. 2018. 'Drinking tea improves the performance of divergent creativity', *Food Quality and Preference*, 66: 29–35.

267 Orly Weinreb, Sylvia A. Mandel, Tamar Amit and Moussa B. Youdim. 2004. 'Neurological mechanisms of green tea polyphenols in Alzheimer's and Parkinson's diseases', *Journal of Nutritional Biochemistry*, 15 (9):506–516.

268 Hiroyuki Sakakibara, Hitoshi Ashida, Itsuko Fukuda, Takashi Furuyashiki, Yuji Nonaka, Takashi Sano and Kazuki Kanazawa. 2004. 'Intake of green tea increases antioxidative potency in rats', *ICOS*, 2: 511–512.

269 Nien Vinh Lam, Tamiko Hatakeyama, Satoshi Okuyama, Takehito Terashima and Hidehiko Yokogoshi. 2004. 'Effects of green tea catechins on passive avoidance task and neurotransmitters in rats', *ICOS*, 2: 435–438.

270 Keiko Unno, Fumiyo Takabayashi, Takahiro Kishido, Naomi Kinouchi and Naoto Oku. 2004. 'Suppressive effect of green tea catechins on morphological and functional regression of the brain in aged mice', *ICOS*, 2: 592–593.

Despite the ubiquitous availability of green tea in Japan, not everyone is a keen drinker. The Comprehensive Geriatric Assessment conducted in 2002 amongst 1,003 people aged 70 and older revealed that higher green tea consumption was clearly correlated with a lower prevalence of cognitive impairment.[271] In experiments on mice, epigallocatechin gallate (EGCG) has been shown to reduce amyloid β mediated cognitive impairment, reducing cerebral amyloid β level and plaques.[272] In Wistar rats, green tea catechins were demonstrated to prevent cognitive deficits caused by amyloid β_{1-40} infusion.[273]

The memory of cognitively impaired Aβ1–40 infused rats that were treated with green tea catechins was better than in similarly impaired but untreated rats. Researchers attribute the difference to an amelioration of oxidative stress in the cerebral cortex caused by green tea catechins.[274] In senescence-accelerated mice (SAMP10), green tea catechins impeded morphological and functional regression in the brain, presumably through its antioxidative function, but the expression of memory-related genes was also shown to be upregulated by the consumption of green tea catechins. At the same time, epigallocatechin gallate suppresses the loss of synapses in aged mice by causing a rise in the level of synaptophysin.[275]

It is claimed that green tea reinforces memory, thereby promoting healthy ageing. In Alzheimer's disease, there is a reduction of the neurotransmitter acetylcholine due to enhanced acetylcholinesterase activity, and some researchers have claimed that this situation is somewhat alleviated by green tea. Green tea also inhibits the enzymes butyrylcholinesterase and beta-secretase, which appear to be associated with the characteristic protein plaques which build up in the brains of people afflicted with Alzheimer's disease.[276] Studies of the possible neuroprotective effects of the epigallocatechin gallate (EGCG) contained in tea in preventing strokes have been inconclusive, however.[277]

When Polyphenon E®, the extract of refined green tea polyphenols already discussed above, was fed to groups of juvenile rats, their maze solving abilities improved when compared with con-

271 Shinichi Kuriyama. 2007. 'Green tea consumption and cognitive function: Evidence from a cross-sectional study', *ICOS*, 3, HB-S-03.

272 Kavon Rezai-Zadeh, Gary W. Arendash, Huayan Hou, Frank Fernandez, Maren Jensen, Melissa Runfeldt, R. Douglas Shytle and Jun Tan. 2008. 'Green tea epigallocatechin-3-gallate (EGCG) reduces beta-amyloid mediated cognitive impairment and modulates tau pathology in Alzheimer transgenic mice', *Brain Research*, 1214: 177–187.

273 Abdul M. Haque, Michio Hashimoto, Masanori Katakura, Yukihiko Hara and Osamu Shido. 2008. 'Green tea catechins prevent cognitive deficits caused by $A\beta_{1-40}$ in rats', *Journal of Nutritional Biochemistry*, 19 (9): 619–626; Angelique Stalmach and Alan Crozier. 2010. 'The bioavailability and bioactivity of green tea flavan-3-ols', *ICOS*, 4, HB-S-06.

274 Abdul M. Haque, Michio Hashimoto, Masanori Katakura, Yukihiko Hara and Osamu Shido. 2010. 'Green tea catechins-induced prevention on impairment of memory learning in amyloid β-infused rats associates with the decrease of amyloid β levels in cerebral cortex', *ICOS*, 4, HB-P-03.

275 Keiko Unno. 2007. 'The anti-senescence effect of green tea on the brain', *ICOS*, 3, HB-S-05; Keiko Unno, Yuichi Ishikawa, Toshiya Ohtaki, Toru Sasaki and Minoru Hoshino. 2010. 'Active component in green tea catechins and intake period suppresses brain dysfunction in aged mice', *ICOS*, 4, HB-P-13.

276 Edward J. Okello, Sergey U. Savelev and Elaine K. Perry. 2004. '*In vitro* anti-β-secretase and dual anti-cholinesterase activities of *Camellia sinensis* L. (tea) relevant to treatment of dementia', *Phytotherapy Research*, 18 (8): 624–627; Tohru Hasegawa, Edward Okello and Tatsuo Yamada. 2005. 'Protective effect of Japanese green tea against cognitive impairment in the elderly, a two-years follow-up observation', *Alzheimer's & Dementia*, 1 (Suppl 1): S100; Edward J. Okello, G.J. McDougall, S. Kumar and C.J. Seal. 2011. '*In vitro* protective effects of colon-available extract of *Camellia sinensis* (tea) against hydrogen peroxide and beta-amyloid ($A\beta_{(1-42)}$) induced cytotoxicity in differentiated PC12 cells', *Phytomedicine*, 18 (8–9): 691–696.

277 Astrid Nehlig. 2004. 'Can tea consumption protect against stroke', pp. 53–71 in Nehlig (op.cit.); Brad A. Sutherland, Rosanna M.A. Rahman and Ian Appleton. 2006. 'Mechanisms of action of green tea catechins, with a focus on ischaemia-induced neurodegeneration', *Journal of Nutritional Biochemistry*, 17 (5): 291–306.

FIGURE 11.17
Antoni van Leeuwenhoek (1632–1723), one of the many scientists and writers who claimed that tea was good against kidney stones in the 17th century, Rijksmuseum, Amsterdam

trol groups. The measured improvement of spatial cognitive learning has been tentatively attributed to the antioxidative effects of free radical scavenging exerted by these compounds.[278] The administration of green tea catechins in the form of Polyphenon E also reduced memory impairment artificially induced by amyloid β suffusion in the brains of rats.[279]

Long-term administration of Polyphenon E improves spatial cognition and learning in rats with brains infused with amyloid β.[280] The long-term use of green tea catechins administered as Polyphenon E increased the activity of catalase, glutathione peroxidase and glutathione reductase in both the hippocampus and the cerebral cortex of rats. The enhanced activity of these antioxidative enzymes in brain tissues suggests that tea improves long-term cognitive function and memory and may help prevent age-related cognitive decline.[281]

278 M.A. Haque, Michio Hashimoto, Yoko Tanabe, Yukihiko Hara and Osamu Shido. 2004. 'Chronic administration of Polyphenon E improves spatial cognitive learning ability in rats', *ICOS*, 2: 431–434.

279 Abdul M. Haque, Michio Hashimoto, Masanori Katakura, Yukihiko Hara and Osamu Shido. 2007. 'The protective effect of green tea catechins against amyloid β induced memory impairment involves inhibition of brain oxidative stress in Alzheimer's disease model rats', *ICOS*, 3, HB-P-202.

280 Abdul Haque, Michio Hashimoto, Masanori Katakura, Yoko Tanabe, Yukiko Hara and Osamu Shido. 2007. 'The preventive effect of green tea catechins on amyloid β induced impairment of cognitive learning ability in Alzheimer's disease model rats', *ICOS*, 3, HB-S-06.

281 Kohinoor Begum Himi, Michio Hashimoto, Masanori

Tea, the Kidneys and the Liver

Tea has always been said by some to dehydrate and by others to rehydrate. Obviously, drinking tea, which consists primarily of water, does not dehydrate in any literal sense. However, tea, and particularly black tea, contains oxalates, which can build up in the kidneys. Green tea too contains high levels of oxalate, nearly as high as the level found in spinach, particularly when tea is cultivated with a rich supply of nitrogen. Nitrate and oxalate levels are higher in *gyokuro* and *tencha*, which are cultivated with shading, than in *sencha*, which is cultivated without shading. The intake of excess oxalate inhibits the absorption of calcium and increases the risk of renal and urethral calculus formation.[282]

Therefore, people with a predisposition to developing kidney stones are currently advised not to drink too much tea. This is very different advice from the medical reports of the 17th century, which generally claimed that drinking tea helps to prevent kidney stones by cleansing the kidneys, as claimed and reported by Matteo Ricci in 1610, Jacob de Bondt in 1631, Alexandre de Rhodes in 1651, Martino Martini in 1655, Olearius in 1656, Thomas Garway in 1660, Bontekoe in 1678, Tavernier in 1679, Ovington in 1682 and van Leeuwenhoek in 1692. About 80% of kidney stones consist of calcium oxalate. Accordingly, kidney stone sufferers used to be advised not to take foods or drinks that contained too much calcium, but currently the medical consensus has changed.

More than dietary calcium, a high dietary intake of oxalates and a low fluid intake are now thought to be more significant risk factors for people with a propensity to develop kidney stones. About a fifth of kidney stone sufferers, however, have some other type of kidney stone, consisting either of calcium phosphate, uric acid, cystine or of magnesium ammonium phosphate, also known as struvite. The presence of high levels of magnesium (Mg^{2+}) in one's diet has been shown to be a kidney stone inhibitor, although the mechanism of this effect has not yet been understood, let alone whether the effect holds for all types of kidney stones.[283] The complex issue of kidney stones is the target of ongoing research, and a good physician will be abreast of the most recent insights. The idea that tea cures all ills would of course be absurd. One study, for example, suggests that tea reduces the ability of young women to absorb dietary iron.[284]

However, avid tea drinkers, who drink tea all day long, will naturally find that they must regularly expel some of the fluid that they imbibe. In so doing, they may lose electrolytes so that they might crave something salty. Perhaps Lù Yǔ's old advice back in the 8th century to add a pinch of salt to one's tea was not such a bad idea. A more enticing way of replenishing electrolytes might be a bag of salted almonds or salty *krupuk emping*. In studying the intake of black tea so ubiquitous in the British Isles, an English team found that an intake of greater than three cups of black tea a day was associated with a reduced incidence of coronary heart disease, and any number of cups a day was associated with an improved antioxidant status, and that eight cups of black tea a day did not yet constitute too much caffeine.[285]

Katakura, Abdul M. Haque, Yukihiko Hara and Osamu Shido. 2007. 'Long-term administration of green tea catechins enhances gene expression and activities of antioxidative enzymes in the hippocampus', *ICOS*, 3, HB-P-201.

282 Akio Morita and Masaki Tuji. 2002. 'Nitrate and oxalate contents of tea plants (*Camellia sinensis* L.) with special reference to type of green tea and effect of shading', *Soil Science and Plant Nutrition*, 48 (4): 547–553.

283 Julie M. Riley, Hyunjin Kim, Timothy D. Averch and Hyung J. Kim. 2013. 'Effect of magnesium on calcium and oxalate ion binding', *Journal of Endourology*, 27 (12): 1487–1492.

284 Samir Samman, B. Sandström, M.B. Toft, K. Bukhave, M. Jensen, S.S. Sørensen and M. Hansen. 2001. 'Green tea or rosemary extract added to foods reduces nonheme iron absorption', *American Journal of Clinical Nutrition*, 73 (3): 607–612.

285 E.J. Gardner, Carrie H.S. Ruxton and A.R. Leeds. 2007. 'Black tea—helpful or harmful? A review of the evidence', *European Journal of Clinical Nutrition*, 61: 3–18.

FIGURE 11.18
Teh botol by Sosro (Lopez 2013)

Tea and dietary supplements are two different matters. In the United States, herbal and dietary supplements are currently considered to be the second most common cause of idiosyncratic liver injury, and green tea extract has been implicated in over sixty such cases of hepatotoxicity.[286] However, the attribution of the cause of hepatotoxicity to dietary supplements has often turned out to be false, resulting from a bias towards overdiagnosis, with the hepatotoxicity seen in about half of such cases eventually being attributed to other causes.[287] Recently, the 26-year-old dockyard labourer Matthew Whitby was compelled to undergo a liver transplant at Sir Charles Gairdner Hospital in Perth due to fulminant liver failure shortly after he had begun to take two dietary supplements.[288]

The dietary supplement in question contained a veritable *potpourri* of ingredients, including green coffee extract, African mango extract, guarana, whey protein, vitamins and minerals. The man was also taking a second supplement containing

286 Felix Stickel and Daniel Shouval. 2015. 'Hepatotoxicity of herbal and dietary supplements: An update', *Archives of Toxicology*, 89 (6):851–865.

287 Rolf Teschke, Albrecht Wolff, Christian Frenzel, Alexander Schwarzenboeck, Johannes Schulze and Axel Eickhoff. 2014. 'Drug and herb induced liver injury: Council for International Organisations of Medical Sciences scale for causality assessment', *World Journal of Hepatology*, 6 (1): 17–32.

288 Sophie Scott, Alison Branley and Courtney Bembridge. 2016. 'Man given two weeks to live after taking popular weight-loss product purchased online', *Australian Broadcasting Corporation*, Saturday 13 February 2016. ⟨http://www.abc.net.au/news/2016-02-14/man-faced-death-after-taking-popular-weight-loss-product/7162378⟩.

FIGURE 11.19 Nestea instant ice tea advertisement used in the United States in 1963
COURTESY OF NESTLÉ HISTORICAL ARCHIVES NESTLÉ, VEVEY

FIGURE 11.20 Instant *tokeru o-cha* 溶けるお茶 'soluble tea' even claims to contain some *matcha*

hydroxycitric acid extracted from *Garcinia cambogia*. Though the medical researchers conceded that these circumstances prohibited 'definitive identification of the causative', they stated that the 'patient's clinical picture, biochemistry results and histopathology results are consistent with a green tea extract-induced liver injury', in effect implying that his case of idiosyncratic liver failure could be attributed to the catechins in green tea extract.[289] As a result, some media reports falsely presented the incident as liver failure induced by green tea extract. Nevertheless, people should certainly be wary of the pills and dietary supplements that they choose to take.

Another alarming case transpired in Texas, where the daily ingestion of green tea supplements in capsule form for a period of several months by Jim McCants of Prosper led to liver failure and necessitated a liver transplant. This existential calamity led to litigation against the green tea supplement manufacturer Vitacost in Florida. Subsequently, the European Food Safety Authority issued a warning that catechin doses in excess of 800 mg per day may pose health concerns.[290]

289 Rosemary J. Smith, Christina Bertilone and Andrew G. Robertson. 2016. 'Fulminant liver failure and transplantation after use of dietary supplements', *Medical Journal of Australia*, 204 (1): 30–32.

290 Melanie G. May. 2017. *vitacost.com, inc., appellant v. James McCants, appellee*. Palm Beach County: District Court of Appeals of the State of Florida, fourth district, docket number4D16–3384, 15 February 2017; BBC News. 2018. 'The food supplement that ruined my liver', 25 October 2018 ⟨https://www.bbc.com/news/stories

Bottled Tea Drinks, Bubble Tea and Other New Trends

In Indonesia, *teh botol* 'bottled tea' was first innovated by the Sosrodjojo family under the brand name Sosro. The family had been selling jasmine tea from Slawi in Java since 1940. In 1969, they launched the first *teh botol*, and in 1974 they opened their first ready-to-drink bottling plant near Jakarta. An automated hot filling system extended the shelf life of the bottled tea, which was manufactured without artificial colouring, without preservatives and without artificial sweeteners. By 2004, Sosro sold over five million bottles daily, manufactured at seven factories throughout Indonesia.[291]

In sequel to the innovation of instant coffee or Nescafé in 1938, Nestlé adapted the same process in order to invent powdered instant ice tea just after the Second World War. The product was launched in 1948 in both Switzerland and the United States, initially as an unsweetened hot drink. After 1956, the powder was soluble in cold water and could be used to have tea, hot or cold. When soluble sugar and lemon were added in powder form in 1964, a new product named Nestea finally yielded a soluble rendition of American style ice tea. Today in Burma, Royal Myanmar Teamix is a powdered instant Burmese style tea. Japan, of course, also has its own instant tea known either as *funmatsucha* 粉末緑茶 'fine powder green tea' or as *tokeru ocha* 溶けるお茶 'soluble tea'.

The Japanese soft drinks market, which first began in the 1960s, has developed into a four trillion yen market.[292] In terms of sheer volume, tea in polyethylene terephthalate (PET) bottles has become the most popular way of consuming tea in Japan, with Itō-en 伊藤園 taking one third of Japan's domestic market share. In 2017, Itō-en had a market value in excess of 430 billion Japanese yen (¥4,300 億) and also sold bottled tea in Southeast Asia, the United States and other markets. Bottled tea drinks were introduced in Japan in 1981, with Itō-en launching oolong tea drinks on the market, quickly followed by Suntory サントリー (*Santorī*). Itō-en, which began by selling packaged green tea leaves by weight in 1966, introduced canned *sencha* in 1985, and bottled and canned green tea grew astoundingly in popularity.[293]

In 1989, Itō-en changed the brand name of its canned green tea to Oi Ocha おいお茶 *'hey tea!'*. Itō-en released various types of Japanese tea in PET bottles in 1990, with hot tea first being made available in heatable PET bottles from 2000. To preserve freshness in bottled teas, nitrogen (N_2), which is the main component of air, is pumped into the bottled tea to drive out oxygen, reducing the amount of dissolved oxygen to 0.0003%. The taste and aroma of bottled teas in Japan is vigilantly micromanaged. As this book was going to press, this task was managed for Itō-en by Haraguchi Yasuhiro 原口康弘, the manager of research and development at Shizuoka, and the Oi Ocha brand manager Yasuda Tetsuya 安田哲也, each with their respective teams of tea tasters.

Although Itō-en has occupied the top spot in the Japanese bottled tea market for over thirty years, other major brands include Kirin キリン, Suntory サントリー and even Coca-Cola, which has muscled its way in by buying up local brands as they saw the demand for sugary drinks deteriorate in many markets. As in Indonesia, the Japanese market was dominated by bottled tea, not by instant tea reconstituted from a powder. Whereas caffeine in tea is relatively stable, the catechins deteriorate massively during processing when the

-45971416⟩; European Food Safety Authority. 2018. 'EFSA assesses safety of green tea catechins', 18 April 2018 ⟨www.efsa.europa.eu/en/press/news/180418⟩.

291 Peter S. Sosrodjojo. 2004. 'Teh Bottle Sosro, the first ready-to-drink tea from Indonesia', *ICOS*, 2: 781; The widely disseminated Sosro publicity picture was adapted from Apple Lopez. 2013. 'My unexpected love affair with Medan', ⟨applelopez.wordpress.com⟩, 18 November 2013.

292 Takehisa Okamoto. 2007. 'The recent evolution and diversification of green tea in the Japanese soft drinks market', *ICOS*, 3, MI-S-03.

293 Yoshibumi Honda. 2004. 'Recent bottled tea drinks trend in Japan', *ICOS*, 2: 766–769.

FIGURE 11.21
A tin of green Oi Ocha tea おいお茶 posing proudly for the author at Fushimi Inari shrine 伏見稲荷大社

pH is higher than 6, whilst catechin deterioration is inhibited at a pH lower than 5. The temperature of 82°C appears to represent the experimentally established upper threshold for retaining high catechin concentrations in tea infusions.

Not surprisingly, therefore, the high temperatures attained in the process of the sterilisation of canned or bottled green tea reduces the amount of catechins. Lowering the sterilisation temperature and increasing acidity by adding a modicum of ascorbic acid, better known as vitamin C, help to conserve catechin potency in canned or bottled green tea.[294] Moreover, green tea stored in PET bottles made and canned green tea in tins are generally subjected to warm conditions during transport and storage and consequently lose 14% of their ester-typed catechins as well as 10% of their free-typed catechins and vitamin C content. In Japan, it is considered that the shelf life of such bottled and canned green teas should not exceed two weeks.[295]

The flavouring of tea may very well be anathema to purists, but even in Japan products such as green tea with 'marron' or chestnut flavour have been available on the market for several years. As if to arouse the ire and indignation of purists even further, Kanejū Farm カネ十農園 (*Kanejū nōen*) at Makinohara 牧之原 in Shizuoka prefecture has since 2017 been producing *sencha* with added Earl Grey flavour. Prompted by consumer demand, now even Ippōdō 一保堂 in Kyōto, the once purveyor to Japan's imperial court, has begun, quite sacrilegiously, to include sugared *matcha* as one of the many items in its assortment, which caters to an increasingly global clientele. For the ready-to-drink market, green tea solution can even be treated with a fungus to produce a beverage

294 Shinichi Suematsu, Yoshiro Hisanobu and Kazuko Nakano. 2001. 'Changes of catechins in green tea drinks during the production process', *ICOS*, 1 (IV): 106–109.

295 Katsunori Kohata, Nobuyuki Hayashi and Tonlonli Ujihara. 2004. 'Changes in catechin content and antioxidative activity during the hot storage of PET bottles and canned green tea beverages', *ICOS*, 2: 754–757.

FIGURE 11.22
Suntory bottled green tea

with the taste and some of the composition of dark tea, characterised by the same drop in galloyl catechin content.[296]

In Japan, tsiologists have identified which catechins are bitter in taste and which are not, and from the early noughties tea beverages have been available on the Japanese market with reduced levels of bitter catechins and enhanced levels of tasty catechins so that an overall higher level of catechins is contained in such new tea beverages. As a result, adiponectin levels in the blood of avid consumers of such beverages have measurably increased. Adiponectin is a proteinacous hormone produced and secreted exclusively by adipocytes, and low levels of adiponectin are associated with increased risk of heart attack and obesity.[297] In Japan, even bottled tea demonstrably has health benefits.

The popularity of ready-to-drink tea beverages and tea drinks has impacted the consumption of fine tea in Táiwān, where oolong is still the most favoured tea. Population growth, urbanisation and industrialisation have reduced the area under tea cultivation in Táiwān from 47,845 hectares in 1919, when Formosan tea plantations were at their maximal extent, to 17,205 hectares in 2006.[298] Yet tea consumption on Formosa has only risen, and alongside traditional tea, Táiwān is the home of the new beverage called bubble tea, known in French as *thé aux perles*[299] and in

296 Kenji Miyake, Toshimichi Asanuma, Yoshiaki Kitsukawa, Eiji Shida, Takaya Watase, Kazuo Mochizuki, Toshihiro Suzuki and Yukihiko Hara. 2010. ‘The development of a new dark tea-like beverage using microorganism enzyme’, *ICOS*, 4, PR-P-73.

297 Shinsuke Minamoto and Mujo Kim. 2004. ‘high quality and tasty catechins’, *ICOS*, 2: 758–762.

298 Mu-Lien Lin. 2007. ‘Recent trends of tea production and consumption in Taiwan’, *ICOS*, 3, JS-01.

299 The expression *thé aux bulles* is a calque from the English rather than from the original Chinese name.

FIGURE 11.23
Suntory bottled oolong tea

Chinese as *zhēnzhū nǎichá* 珍珠奶茶 'precious pearl milk tea' and less respectfully as *bōbà* 波霸 'big boobs'. Bubble tea is occasionally rendered into English in Taiwan by the literal translation 'pearl milk tea', whereas some insist that pearl milk tea, containing milk, is distinct from bubble tea, from which it is derived.

In the 1980s, wayside tea booths near schools in balmy Táiwān offered affordably priced iced drinks. Later some tea booths serving black tea also offered seating, initially catering especially to truants who liked to skip class, smoke and play cards. Strong, freshly steeped and filtered black tea was mixed with sugar and ice cubes in a shaker and then shaken vigorously until the tea had cooled down to at least 10°C and bubbles had formed. The combination of seating at these tea stalls with the ostentatious style of preparation that evoked the atmosphere of a cocktail bar won clients and ensured the popularity of this type of tea.

Vying claims have generated some controversy about who created bubble tea first, since a number of tea stalls on the isle of Formosa had begun selling their own concoctions at roughly the same time. The question of anteriority led to legal proceedings between the two main bubble tea claimants, although the wrangle yielded no conclusive verdict.

In May 1983, Liú Hànjiè 劉漢介 opened up one such tea store in the bustling Yángxiàn tea row 陽羨茶行 on Sìwéi 四維 Street in Taichung 臺中. His employee Hsiu Hui Lin (*Lín Xiùhuì* 林秀慧) took the scooter to the market every day to work in Liú's tea stall, and in 1987 she got the idea of adding little balls made of tapioca flour to transform iced tea into today's bubble tea. Hsiu Hui Lin continues today to work for Liú as the deputy manager of commodities of his Chūn Shǔi Táng 春水堂 tea house.[300]

At the same time, the reputed culinary artist Tú Zōnghé 涂宗和 of the Hànlín tea house 翰林茶館 in Táinán 臺南 is credited with first inventing bubble tea with tapioca balls in 1986, to which he added powdered milk in 1987.[301] Today his gastronomically sophisticated rendition of bubble tea, using fresh milk and the silkiest black and white tapioca beads, is designed to appeal to the tea connoisseur. Bubble tea represents just one out of many Epicurean iced tea drinks incorporating the finest ingredients. Hànlín tea house also serves iced high mountain oolong, optionally containing

300 Information in Mandarin provided on the website ⟨http://chunshuitang.com.tw⟩.

301 Information in Mandarin provided on the website ⟨http://www.hanlin-tea.com.tw⟩.

FIGURE 11.24
Bubble tea brewer Hsiu Hui Lin 林秀慧
COURTESY OF CHŪN SHŬI TÁNG 春水堂 TEA HOUSE

Ganoderma lucidum, an iced Yúnnán Pǔ'ěr tea, iced prime jade green tea and iced charcoal roasted Tiě Guānyīn.

Bubble tea, made with added flavourings and often containing powdered milk, began to appear in stores in the 1990s, and from 2000 this popular Taiwanese form of tea spread globally and became a trendy drink in cosmopolitan centres around the world.[302] Bubble tea is made from tea with or without added condensed milk, lots of sugar syrup and colourful favoured tapioca balls. At a typical bubble tea bar, you can choose between a variety of different pearls and a menu of tea bases, ranging from *matcha* through jasmine to black tea.[303] Bubble tea may very well be anathema to the tea purist, steeped in the wisdom of Lù Yǔ 陸羽, but a modern and more diffident approach might be required to appreciate this new phenomenon.

302 Yu-Feng Huang, Zheng Fan and Zhi-Yang Lin. 2004. 'A new style of tea culture and its marketing experience', *ICOS*, 2: 680–683.

303 Wan-Tran Huang and Wu-Cheng Liao. 2001. 'The marketing channels of tea in Taiwan', *ICOS*, 1 (IV): 59–62.

FIGURE 11.25
Culinary artist and tea connoisseur Tú Zōnghé 涂宗和, with gracious permission of Hànlín tea house 翰林茶館

In India, chai चाय *cāy* is prepared with boiled brown tea leaves, milk, sugar, black cardamom, true cardamom, cloves and cinnamon. Special Kashmiri varieties also exist, such as chai flavoured with cardamom seeds and crushed almonds, or the popular Kashmiri tea flavoured heavily with saffron.[304] A new type of tea rage in Thailand, called *cha: chák* ชาชัก 'drawn out tea', which has spread from southern Thailand and Malaysia, is an Indian style *chai* that has been adapted to the Southeast Asian taste and which is mixed in a theatrical style in front of clients. The globalisation of chai, which is Indian tea marketed as a trendy cult drink in the West, gave rise to japanified Western concoctions such as green tea latte and green tea smoothies. Starbucks serves a 'green tea latte', which is basically a milk shake made with *matcha* powder.

Enthusiasts have dreamt up their own personal variations, such as the 'palaeo-matcha-smoothie', containing a few teaspoons of matcha, two teaspoons of coconut oil, a teaspoon of cinnamon and half a banana blended with either milk or soy milk. Now at Starbucks, in addition to green tea latte, Teavana has introduced a new line of sweet sugary drinks which they call 'tea lattes'. These sweetened milk shakes contain pulverised entire tea leaves. Despite a superficial resemblance to the industrial grade *matcha* used in a green tea latte, the 'microground' mulch of oxidised tea leaves is inherently more akin to the grade of brown tea which the English colonial tea industry denominated tea dust. Obviously, the dust of pulverised tea leaves is a product quite distinct from even industrial grade *matcha*, let alone the finely milled *matcha* of Japan, gently ground on stone mills.

A few enterprises began to manufacture bottled tea drinks in China from the mid 1980s, but these early beverages were plagued by colour and flavour changing and precipitate. Until the mid 1990s, the production of bottled tea drinks was insignificant, but then consumption exploded when the Chinese tea drinks began to imitate Japanese tea drinks more closely, especially after Suntory began manufacturing at Shànghǎi. In 1997, about 200,000 tonnes of such beverages were sold, and this amount rose to 500,000 tonnes in 1998,

304 Taknet (2002: 217).

FIGURE 11.26
Thai *cha: chák* ชาชาชัก 'drawn out tea'
PHOTOGRAPH BY KENNETH RIMDAHL

then to 800,000 tonnes in 1999, to 1,850,000 tonnes in 2000, before levelling off just above 3,000,000 tonnes annually in the early noughties. In contradistinction to most Japanese tea, many of the Chinese beverages are lightly sweetened.[305] The Chinese market for ready-to-drink tea has reached five million tonnes, with the brands Kāngshīfù 康師傅, President, Nestea and Wáhāhā 娃哈哈 currently taking 80 % of market share.

Meanwhile, in Europe and North America, the vast majority of what is sold in supermarkets as green tea is simply not green tea but partially oxidised substandard grades of tea masquerading as green tea. In this sense, what Lipton today sells as green tea in the West is essentially a new variety of tea that has never previously been manufactured in history. By contrast, Lipton is compelled to maintain higher standards in China to meet the more exacting demands of knowledgeable Chinese taste buds. In China, the company puts real green tea into its tea bags, although green CTC tea in tea bags is obviously not the finest green tea.

A tea bag of Twining's green tea with mint, when cut open in France today, reveals imperfectly oxidised low-grade CTC black tea, which is fancifully but unjustifiably designated as 'green' by the label makers, whilst the 'mint' actually has the form of minuscule white pellets consisting of a soluble mint flavouring. With such products the name of an illustrious English tea family is sullied by the multinational company that bought their name. Other tea companies produce similar ware. Considering that Twining's is one of the rival claimants for having invented Earl Grey tea with the nat-

305 Penxiang Yue and Jun Wang. 2004. 'A brief study of the Chinese tea drinks market', *ICOS*, 2: 770–772.

ural flavouring of oil extracted from the bergamot zest for the 2nd earl Grey, white granules of artificial flavourings added to finely shredded low-grade tea may seem a logical culmination to some, but a sad outcome in the eyes of tea connoisseurs. Such products are an inexorable outcome of the need to cater to the tastes of a burgeoning but, for the large part, increasingly unsophisticated consumer market, ever since the invention of English style black tea.

At least, Dilmah's 'pure peppermint leaves' herbal tea actually consists solely of shredded peppermint leaves, but Dilmah too produces tea bags filled with low-grade fully oxidised Ceylon black CTC tea containing white granules made up variously of strawberry, lemon or other chemical flavourings. Arguably, however, tea connoisseurs will not be seeking strawberry flavoured tea in the first place. Yet label designers who write 'real leaf tea' in large letters on individually wrapped bags of Ceylon black CTC tea abuse the phrase 'leaf tea'. If such labels are not to be deemed as constituting false advertising, then the claim 'real leaf tea' for mechanically shredded fully oxidised black CTC tea could logically only be construed as making the rather bizarre assertion that the tea contained in the tea bag is made from the leaves rather than, say, from the shredded bark or roots of the plant.

The spread of tea knowledge may help increase the segment of discerning tea drinkers on the market, but a growing number of people have been discovering and will continue to discover fine tea by themselves without the prompting of a book. Scuba diving Maldivian friends buy fine green leaf tea in a Malé supermarket and faithfully take their supply of choice tea with them to brew on outlying atolls. In the Americas, where many products marketed as fine green tea or, even more outrageously, labelled as 'Dragon Well' tea are nothing of the sort, discerning tea connoisseurs order fine green leaf tea from afar on the internet.

Whereas not all wine drinkers are wine connoisseurs, real scope exists for increasing sophistication in the global tea market. In Japan, where tea knowledge is historically widespread and deeply rooted, green tea of high quality is mass produced. Even most Japanese bottled and canned tea is of a quality as yet unattained anywhere outside of Japan, and sweetened imitations produced in several other Asian countries have not yet attained this standard, situating themselves somewhere in the spectrum between Occidental sweetened bottled tea and genuine bottled tea.

The new products labelled as 'green tea' and introduced by Occidental tea giants appear to represent a compromise aimed at gradually introducing a less oxidised type of tea to consumers whose palate has been spoilt by black CTC tea. Yet for the time being, the new CTC green teas are sometimes harsher than the black teas which they attempt to replace, whilst offering none of the fragrance or taste which enchanted Europeans when the Western palate first became enamoured of green tea in the 17th century. For example, the green tea currently sold by Coop Naturaplan in Swiss supermarkets is genuinely green tea, but this CTC product packed in tea bags currently still lacks the fragrant aromatic qualities of high quality leaf tea. With green tea of such lamentable quality, it will prove challenging to wean a public accustomed to sweetened artificially flavoured beverages to more wholesome drinks.

Many of the tea-based drinks, however, may represent a step in the right direction. The Austrian company Carpe Diem makes a pleasant mildly effervescent infusion of ginger and nisha pears which contains some *matcha* powder and is brazenly branded as 'MATCHA sparkling green tea'. The drink decidedly tastes nothing like *matcha*, but this sparkling read-to-drink brew is pleasant. Yet more brazenly labelled is the health drink simply called 'Matcha', sold by Mono in Zürich in a tiny glass bottle sealed with a white plastic cap. This unpasteurised matcha shot is snap-frozen and stored at −25°C and is meant to be drunk at 5°C, promptly after thawing. Matcha contains 2 grammes of organically grown *matcha*, but the taste of the salubrious mixture inside the sealed

FIGURE 11.27
A PET bottle of the successful Swiss whey beverage *Rivella* in its tasty green tea rendition *Thé vert* or *Grüntee*, posing coyly for the author on a table inside Zürich Airport at Kloten, known colloquially as *Rivella grün*

six-centilitre shot glass is primarily determined by its other components, viz. fruit juice, ginger, white tea and mint.

The Swiss green Rivella, produced from whey and green tea extracts, is more widely available and can likewise be recommended. The mild bitterness of the green tea extract yields a far more satisfying version of this purified fizzy whey drink than some other flavour combinations which the company has tried out, such as soy serum, rhubarb, peach and mango. Nestea, Lipton and numerous other companies produce iced tea drinks on an industrial scale, including bottled black tea drinks flavoured with essence of peach, mango, lemon or another fruit flavour. Not all of these drinks are as sweet as Thai iced tea, but they differ enormously from the iced bottled tea sold in Japan, which is characteristically not sweetened and derives its 'sweetness' from the aromatic high quality green or oolong tea used to produce the chilled tea, in bottles or tins. Until 2008, black tea drinks were the most popular in the West, but from 2009 green tea drinks overtook black tea drinks in sheer volume.

The global drinks market now has an annual volume in excess of 1,400,000,000,000,000 litres. Out of the 550,000,000,000,000 litres of soft drinks consumed annually, just over 20,000,000,000,000 litres are ready-to-drink tea products in bottles, cans or tetra packs. The second major use for tea extracts are the spoonable products, comprising a mixture of tea extracts, sugar, acid and flavour, such as instant tea common in Europe and North America. The ready-to-drink tea had a $660 million dollar market in the United States in 2006. The global production of tea extracts is estimated to be

at about 28,800 tonnes, with Kenya, India and Sri Lanka being the largest producers, in that order.

In 2003, the production of tea polyphenols in China was at about 800 tonnes, the production of tea pigments was at about 300 tonnes, whereas the production of theanine was at about 10 tonnes.[306] Today over 4,000 tonnes of purified tea extracts are produced in China alone, utilised mainly in the non-food market of home and personal care products, such as detergents, soaps, fragrances and shampoos.[307] In addition to these tea extracts, highly purified forms such as Teavigo, Polyphenon E and Sunphenon are produced. In Europe alone, the annual utilisation of such purified extracts has reached about 2,700 tonnes, for example in the form of nutritional supplement tablets and additives to products such as breakfast cereals.

Some rather surprising uses have been found for green tea extracts. Amazingly, Polyphenon E, when applied topically, heals genital warts and was approved as an ointment for this purpose by the United States Food and Drug Administration in October 2006.[308] Another unexpected use of tea takes the form of a skin whitening agent, produced experimentally in Korea on the basis of extracts from green tea that has been subjected to post-fermentation.[309]

Polyphenon G®, a product of the Mitsui Norin company containing the selected green tea extracts flavonoids and curcumin, showed effective antifungal activity against *Phytophthora capsici* and *Sclerotium rolfsii* affecting tomatoes as well as against fungi of the genus *Pythium* that afflict lettuce, offering a green alternative to artificial fungicides for these crops.[310] In the face of relentless population growth and so much of the world's surface being covered with tea bushes, one new study has even ascertained the feasibility of using the protein extracted from defatted tea seed meal as a future food source.[311]

Many new experiments are being conducted with tea, and these innovations are both heterogeneous in character and in inspiration. In sequel to its famous Nespresso capsule machines, a number of years ago Nestlé introduced another device called Special.*T*®, in which tea is similarly brewed by forcing hot water through an aluminium capsule containing tea. An information chip inside each tea capsule instructs the machine to set the type of tea contained in the particular colour-coded capsule at precisely the right temperature in order to assure good quality and uniformity of the resultant infusions. The intelligent design of this apparatus will no doubt grow even more sophisticated as this product is improved over time. However, there are hundreds of types of tea, and each harvest is different, so that one might question whether it could ever become feasible, let alone economically viable, to produce enough lines of capsules to cover them all. The mechanisation takes all the art out of preparing good tea, and this machine is therefore ideally suited to the artless. This very trait, however, augurs a brilliant utilitarian future for future incarnations of this clever contraption, especially if finer teas are ever going to be properly prepared and enjoyed on a serene individual basis by a mass consumer market in the overcrowded hustle and bustle of our collectively fast-paced lives.

Technology has also yielded other improvements. For example, the metallic taste that can be imparted to tea by the use of a stainless steel strainer can purportedly be avoided by the use of a titanium tea strainer, and some *kyūsu* 急

306 Wan (2004).

307 Timothy J. Bond. 2010. 'The global market for tea extracts', *ICOS*, 4, ILSI-S-03.

308 Yukihiko Hara. 2007. 'The development of tea catechins into pharmaceuticals', *ICOS*, 3, HB-S-08.

309 Huikyoung Chang, Hyangtae Choi, Yong Jin Kim, Jung Eun Shim, Hyun Jung Shin, Bum Jin Lee, Jun Oh Kim and Hankon Kim. 2010. 'Skin whitening effect of Sulloc green tea extracts processed by post-fermentation', *ICOS*, 4, HB-P-90.

310 M. Wilmot, N. Labuschagne and Zeno Apostolides. 2007. 'The inhibition of phytopathogenic fungi on selected vegetable crops by tea (*Camellia sinensis*) extracts', *ICOS*, 3, ILSI-S-02.

311 Jong-Bang Eun and Young-Min Chung. 2004. 'Physicochemical properties of the protein isolated from defatted tea seed meal', *ICOS*, 2: 263–264.

FIGURE 11.28
Nestlé's new tea brewing device Special.*T* ®
PHOTO BY PETER LIPPMANN

須 teapots have already been outfitted with such improved strainers.[312] New types of tea leaf parching machines have been developed which use superheated vapour to produce *tencha*, and fine-tuning the tea scattering dryer permits good control of the moisture content in the end product.[313] For the monitoring of the quality of the green tea, Japanese tea factories can now be equipped with quartz crystal microbalance aroma sensors with sensitive membranes that adsorb aromatic molecules.[314]

Some of the experiments being conducted, such as the development of a soybean protein that mask the natural bitterness and astringency of tea poly-

312 Jun-ichi Inagaki, Takahiro Shinba, Kazuyoshi Matsumoto, Hideaki Murakami, Hideyuki Kanematsu and Yoshikazu Bontani. 2013. 'The development of a titanium tea strainer for *kyūsu* teapots', ICOS, 5, PR-P-19.

313 Hiroyuki Iriki, Toshihiro Sakihara and Satoshi Tooya. 2010. 'Development of simple methods for manufacturing various types of crude tea using a new parching machine', ICOS, 4, PR-P-70.

314 Tamotsu Yugami, Susumu Tanaka, Kiyoshi Miura, Yoshio Okada, Kazuo Mochizuki, Takaya Watase and Yoshiaki Kitsukawa. 2010. 'Application of aroma sensors for monitoring the quality of green tea', ICOS, 4, PR-P-64.

FIGURE 11.29 Bubble tea shop in London

phenols, the addition of enzymes to low-grade *sencha*, or the additive β-cyclodextrin to enhance tea flavour, appear more like artificial adulterations than improvements. A trifle more unsettling perhaps are attempts genetically to modify tea plants by particle bombardment or the co-cultivation with *Agrobacterium tumefaciens* using the embryogenic callus of the tea plant.[315] In this context, Kanzō Sakata 坂田完三, professor emeritus of Kyōto University's Institute for Chemical Research, encourages us to use our ingenuity not just to improve our tea manufacturing techniques, but also to develop new types of tea, just as has been done by our predecessors. Moreover, he advises us that we must treat tea plants with respect as living organisms, and he argues strongly that tea plants grown without pesticides and fertilisers give better aroma and flavour.[316]

Beginning in 1999, a craze for Chinese green teas led to a rise in Chinese tea imports to Japan, but this fashion has been on the decline since 2005, both because of rising production costs in China and changing fashions.[317] In 2012, Aditya Khaitan, the managing director of McLeod Russel India, which supplies Indian black tea to Tetley, Twining's, Barry's and PG Tips, asserted that increased Chinese demand for English style black tea was depleting supplies globally. Although the headline in *The Times* suggested the historical irony of the Chinese cultivating a taste for 'a proper cup of English tea', the black Indian tea imported into China is in reality mainly being used to manufacture iced tea, instant tea granules and ready-to-drink bottled tea.[318]

The finer pure teas and high quality teas remain a niche market, although pure green tea does cover a very big slice of the Japanese tea mar-

315 Michiyo Kato, Koji Uematu and Yasuo Niwa. 2004. 'Transformation of green fluorescent protein in tea plant', ICOS, 2: 219–221.
316 Kanzo Sakata. 2010. 'Studies on aroma formation mechanisms during tea manufacturing suggest methods not only to improve the quality of made teas, but also to produce new types of teas', ICOS, 4, PR-S-08.
317 Azusa Neshi and Youying Tu. 2010. 'The change in the green tea trade between Japan and China and an analysis of the reasons', ICOS, 4, PR-P-89.
318 Robin Pagnamenta. 2012. 'The higher price everybody will pay as China develops taste for a "proper" cup of English tea', *The Times*, Saturday 7 April 2012, p. 72.

FIGURE 11.30 Yet another bubble tea shop in Soho

ket, where tsiological sensibilities of the public at large are arguably the most sophisticated. In China too, there are many with highly refined tea taste, although the best teas are beyond the purse of many, and there is much hype in China about teas of dubious quality. The global growth potential for the current niche market of the finest teas is enormous, however, not by converting more of the earth's surface into tea gardens but by offering tea drinkers a more knowledgeably manufactured and finer array of teas. Consumption of finer unadulterated teas and the skill of proper tea preparation may expand as tea knowledge becomes more widespread, tea drinkers become more sophisticated and tea tastes become more refined.

Japan manages to produce genuine green tea of good quality in tea bags, unlike the bogus green tea sold by many major international players in the tea trade. Despite the craze for green tea, the overwhelming majority of teas which are sold as green tea in Europe, Australia and America bear little resemblance to a proper green Chinese or Japanese tea. In fact, much of what is sold as green tea in these parts of the world is not green tea at all. Since most tea drinkers in these parts of the planet are unfamiliar with genuine green tea, merchants will be able to get away with this trick for some time to come. As consumers in these large markets become sophisticated tea drinkers in due course, then many tea growing areas around the world will have to adapt their production from the fully oxidised withered tea leaf shrapnel that constitutes most of the English style black tea on the market to a broad and varied spectrum of aromas and a

FIGURE 11.31 Dazzling colours and tapioca balls in various hues in a bubble tea shop in Soho

highly refined palette of fragrances. The situation is somewhat better in Europe, especially because of the civilising influence of Parisian tea culture.

In a similar vein, the quality of coffee in America once used to be notorious amongst Europeans. Well-prepared coffee was introduced to America by Alfred Peet, who in 1966 introduced an improved version of Dutch coffee culture to California at Berkeley. His enterprise Peet's coffee managed to improve the local coffee culture in the San Francisco Bay area and so inspired Jerry Baldwin, Zev Segal and Gordon Balker to take out a $8,000 loan and found Starbucks coffee at Pike's market in Seattle in 1971. Their company was named after a shipmate in Melville's *Moby Dick* and thematically sported a mermaid logo. In 1982, the Brooklyn native Howard Schultz, formerly head of marketing at Starbucks, bought the company for $3.7 million and began to produce sugary coffee drinks from 1992. Starbucks became a global coffee culture brand, and sugary coffee drinks spread across the globe by providing a public place to socialise, study, read and lounge about.[319] From the early 1990s, Elephant Tea in Atlanta grew into a branded chain of tea stores called Teavana, which Schultz acquired for $620 million in the noughties. In October 2013, the first Teavana tea bar opened in Manhattan.[320]

Meanwhile Unilever purchased T2, whose Brew Bars in London have expanded into venues where tea is offered alongside books, jams and chocolate. In the inner city, there is a niche for tea rooms that can offer a place of refuge and a pleasant ambiance. Tea, books and music could flourish in such tea lounges in the urban jungle, where people

319 Mark Pendergrast. 2010. *Uncommon Grounds: The History of Coffee and How It Transformed Our World.* New York: Basic Books.

320 Pettigrew and Richardson (2014: 222).

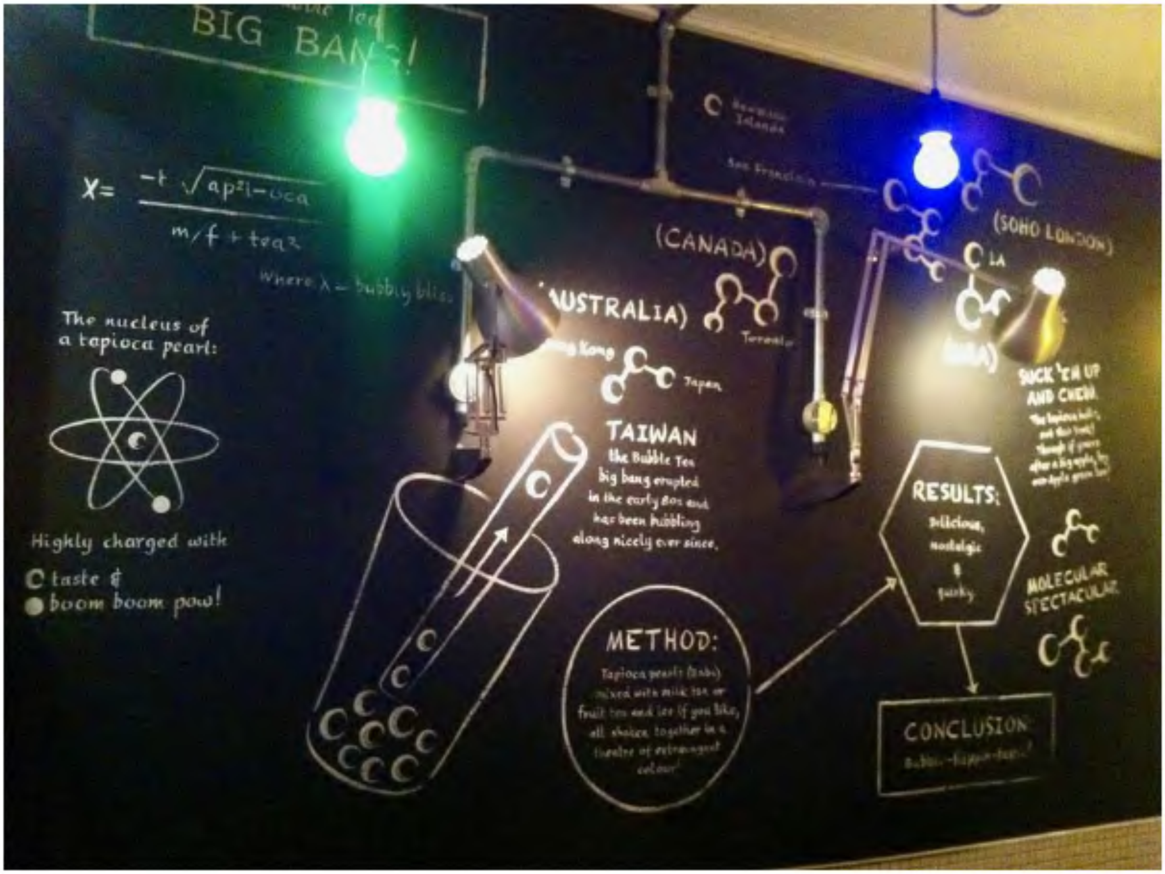

FIGURE 11.32 The chemistry of tea explained in a bubble tea shop in Soho

could also see and be seen, flirt and socialise. Some future tea lounges could even become seminaries of sedition, such as those once so feared by Charles II. In the past two decades, spending on tea in the United States alone has quintupled, although North America still consumed significantly less tea per capita than either Russia or Western Europe. Alongside large American conglomerates, small initiatives are blossoming in Europe. Such initiatives can be quite opposite in style. The YoYo! fresh tea bars that have opened up in Amsterdam and Rotterdam present a lively shrill contrast to the genteel ambiance of the *Teeraum* of Länggass-Tee in Bern or the Theewinkeltje in Dordrecht.

The old days of tea monopolies are gone. Yet large companies can still make uniform English tea for the not too discerning. At the same time, new companies have sprouted up which exploit the possibilities of the internet and modern infrastructure in order to deliver vacuum packed 100 gramme packets of selected teas right from the source with few intermediaries. In this way, an American upstart start-up such as Teabox was able to offer the expensive Mission Hill tea from India at a third of the price of Palais des Thés in Paris, and Okayti sold tea at a third of the price of TWG in Singapore.[321] The internet enables numerous such new ways of delivery. Just a few decades ago, Ippōdō 一保堂 in Kyōto, the purveyor of tea to the Japanese imperial court, would only accept orders from within Japan and dispatch tea orders only to addresses within Japan. Nowadays, they even have

321 Saritha Rai. 2014. 'As India's tea gains fans, seeking a faster way to get it to them', *New York Times*, 26 June 2014.

a website in English and deliver globally. Small tea enterprises will now be able to flourish unless impeded by import duties at the border and other forms of bureaucratic harassment.

Many tea trends will come and go. In 2012, the hoax of Korean *nokch'a mŏkŭn twaejigogi* 녹차 먹은 돼지고기 'tea-fed pork' made a flash in the pan appearance on the internet, but the pigs turned out not to have been fed solely on green tea. In fact, very little tea at all was ever mixed in with their feed. Maybe genuine Korean tea-fed pork will appear on the market one day. Rangsaa, an enterprise founded in 2012, markets itself as the 'Global Tea Movement' and sells packets of 'whole leaf tea blended with herbs', which can either be brewed or added to any number of dishes ranging from butter garlic prawns to chicken roast.

Factors Affecting Fragrance

A single most important factor affecting the fragrance of an infusion of tea is the temperature at which it is brewed. Many Western tea drinkers are accustomed blithely to pouring scalding water directly onto their tea, and in the case of fully oxidised black CTC this practice is perhaps defensible and appropriate. Yet pouring scalding water onto a fine green leaf tea is the sure way to convert the tea infusion instantaneously into tasteless dishwater. This domain of tea knowledge is old, but today even in some Parisian eateries serving Japanese food and in the business class cabins of certain airlines, boiling water is poured directly onto *sencha*.[322]

In the *Classic of Tea*, Lù Yǔ 陸羽 (733–804) described the different water temperatures which he attempted to deduce without the aid of thermometers and thermostats. He described the first stage of water heating as characterised by the tiniest of bubbles, like fish eyes beading up with a hint of sound. In the second stage, the water chatters like a bubbling spring and innumerable pearls appear to be strung together. Finally, in the third stage, the water leaps majestically like breakers on the sea and resounds like a swelling wave. Lù Yǔ recommended that over-boiled water should not be used.[323] Experimenting with a thermometer tells us that the descriptions contained in the *Classic of Tea* appear to cover a range of temperature between 75° and 100°C.

Fine green and yellow teas are generally brewed at temperatures between 70° to 80°C, depending on the delicacy of the tea. Fine *sencha* and *matcha* are brewed at 80°C, whereas *gyokuro* is prepared with water at just 60° or 65°C. The very finest grades of *sencha* is also prepared at the latter lower temperatures, and the very finest *gyokuro* may be prepared with water at 50°C, or even with chilled water, especially in the heat of summer. Gunpowder green, white tea and oolongs are prepared with water heated to between 85° or 90°C. Dark brick tea and black teas at 100°. Some tea drinkers recommend that no tea be subject to scalding water, and that water at 95°C represents the highest temperature to which any tea leaves, even those of black tea, should be subjected.[324]

However, Ippōdō 一保堂 in Kyōto prescribes water at 100°C for its *hōjicha* ほうじ茶 'roasted tea', *genmaicha* 玄米茶 'brown rice tea' and *bancha* 番茶, although they prescribe a steeping time of only half a minute for *hōjicha*. Steeping times are in reality a matter of personal taste. Of course, *hōjicha* is a very particular type of tea which has already been roasted and subjected to high temperatures. Steeping times is a topic of interest, with some authors prescribing different lengths of steeping time for different types of tea, ranging from one to ten minutes.[325] In fact, steeping times are a matter of taste, but also vary considerably

322 The business class cabins of many an airline actually lack any fine teas whatsoever, let alone staff equipped with elementary tea knowledge, although fortunately a few airlines are exceptional in this regard.

323 Ukers (1935, I: 19), Carpenter (1974: 107–109), Jiāng and Jiāng (2009, I: 37).

324 Gautier (2006: 114).

325 Gautier (2006: 116).

FIGURE 11.33
The ever so light greenish hue of a cup of *gyokuro* belies the strong *umami* flavour of the delicately fragrant infusion.

depending on which particular type of tea, which grade of quality and, of course, the chosen style of preparation.

During a tea tasting in the shop of an upscale Chinese teamonger, selling only the most exquisite and delicate teas, the finest and freshest green tea will be allowed to steep only fleetingly, for a matter of seconds, and the client will be allowed to savour a series of steepings from tiny finger cups to experience how the flavour unfolds and the fragrance develops with each successive steeping. Obviously, such a procedure would make little sense with a robust Ceylonese black tea. Experimentation and experience will enlighten the tea drinker as to what is most excellent procedure to prepare any given tea. Many other factors determine the taste of tea other than the temperature at which the infusion is prepared and the length of the steeping.

The effects of storage and preparation on the taste and fragrance of tea have already been discussed at length, but many factors affecting the aroma of the tea have to do with what happens long before it is purchased and brewed. The effects of terroir are known to include both the mineral composition of the soil and the microbiome of organisms living in that soil. Yet another factor, likewise previously discussed sporadically throughout this tale of tea, involves the choice of tea cultivars and the particular conditions under which the tea plants are grown and cared for. Nowadays, cuttings are a more frequent means of propagation than growing from seed. A cutting takes 1 to 1½ years of care in a nursery before its root system is viable enough for transplanting. Plants are planted 1 to 1½ metres apart. When young plants reach the eight of 50 cm, they are often cut back drastically to 10 cm so that they subsequently grow in a V shape and produce a flat plucking table with many terminal buds on the upper surface of the bush.

Shade trees are often grown on tea plantations to provide the tea shrubs with protection from direct sunlight. Sometimes beautiful large flowering trees are selected, such as those of the genera *Albizzia, Erythrina* and *Gliciridia*. Depending on the latitude and altitude, tea plants are ready for harvesting after 2 to 5 years. The yield of tea is greater at lower elevations, but the finer teas are grown at higher elevations. The first two leaves and a bud are plucked by hand for the fine leaf tea, and for some very fine teas only the bud or the first leaf and a bud are plucked. Tea pluckers toss the picked tea onto a wicker basket which they carry on their backs or at their side. A tea plant can produce tea for one hundred years, but the normal period of maximum productivity is around 50 years before the tea bush is replaced.

The different cultivars are another factor affecting taste, and anyone who shops in modern Western supermarkets has reason to be suspicious. Today artichokes and avocados vividly illustrate how often genetic manipulation through selective breeding can go awry to produce sad results. Giant-sized but tasteless fruit marketed as 'tropical avocados' from the Dominican Republic are appallingly devoid of taste, whereas some new artichoke cultivars have been contrived to be aesthetic in shape and of a generous size, but, once prepared, their insipid taste will linger in the memory so that a discerning palate will avoid them in future. The same has happened to many cherry cultivars, and the variety in size and shape of individual plums that we remember from decades ago has in many supermarkets been replaced by unripened and not particularly fragrant fruit in the same size and shape, as if mass produced on a conveyor belt in a factory rather than grown in an orchard. Geneticists have begun to develop an understanding of the genetic coding for the synthesis of aromatic volatiles in flowers and fruits that may help us undo such damage.[326]

At the same time, selective breeding can also yield good results, and most of our crops are the results of centuries or even millennia of selective breeding. In fact, the subspecies *Camellia sinensis sinensis* may actually be nothing other than domesticated *Camellia sinensis assamica* that has been finely honed and refined in fragrance over centuries of artificial selection. Yet tea cultivators must protect tea from the trend to which many fruits and vegetables have fallen prey in recent decades. The cultivars which yield the largest volume of turnover are most often preferred, and not necessarily those that are richest in taste and aroma. It is also of great importance to preserve the natural genetic diversity of wild tea as a resource and for the future enhancement of domesticated tea cultivars. The random amplified polymorphic DNA sampling of 96 tea varieties from the germ plasm garden of the Táiwān Tea Research and Extension Station has shown that the genetic diversity of the main cultivars and local varieties in Táiwān is rather limited, and tea breeders have been admonished to weigh the implications of these findings.[327]

In Japan, the various types of *kamairi cha* and *guri cha* of southern Kyūshū, although produced in a different way than *sencha*, somehow still have a bouquet of elegant aromas which we associate with Japan. One factor in addition to the Japanese *terroir* is the fact that one single clonal cultivar, *yabukita*, occupies over 80% of the land under tea cultivation in Japan and is now also the dominant cultivar in Korea. The cultivar is a major determinant of the fragrance of the tea. Naturally, geneticists are working on the tea genome, and a map of single sequence repeats and expressed sequence tags for use in marker assisted selection

326 Inna Guterman, Moshe Shalit, Naama Menda, Dan Piestun, Mery Dafny-Yelin, Gil Shalev, Einat Bar, Olga Davydov, Mariana Ovadis, Michal Emanuel, Jihong Wang, Zach Adam, Eran Pichersky, Efraim Lewinsohn, Dani Zamir, Alexander Vainstein, and David Weiss. 2002. 'Rose scent: Genomics approach to discovering novel floral fragrance-related genes', *Plant Cell*, 14 (10): 2325–2328; Olivier Raymond, Jérôme Gouzy, Jérémy Just, Hélène Badouin, Marion Verdenaud, Arnaud Lemainque, Philippe Vergne, Sandrine Moja, Nathalie Choisne, Caroline Pont, Sébastien Carrère, Jean-Claude Caissard, Arnaud Couloux, Ludovic Cottret, Jean-Marc Aury, Judit Szécsi, David Latrasse, Mohammed-Amin Madoui, Léa François, Xiaopeng Fu, Shu-Hua Yang, Annick Dubois, Florence Piola, Antoine Larrieu, Magali Perez, Karine Labadie, Lauriane Perrier, Benjamin Govetto, Yoan Labrousse, Priscilla Villand, Claudia Bardoux, Véronique Boltz, Céline Lopez-Roques, Pascal Heitzler, Teva Vernoux, Michiel Vandenbussche, Hadi Quesneville, Adnane Boualem, Abdelhafid Bendahmane, Chang Liu, Manuel Le Bris, Jérôme Salse, Sylvie Baudino, Moussa Benhamed, Patrick Wincker and Mohammed Bendahmane. 2018. 'The *Rosa* genome provides new insights into the domestication of modern roses', *Nature Genetics* doi:10.1038/s41588-018-0110-3; Harry John Klee and Denise M. Tieman. 2018. 'The genetics of fruit flavour preferences', *Nature Reviews Genetics*, 19: 347–356.

327 Chen, Iou-zen, Lin Shin-yu, Tsai Chun-ming and Chen Ying-ling. 2004. 'Genetic relationships of Taiwan tea varieties', *ICOS*, 2: 226–228.

in tea breeding, and cytogenetic studies are also employed to measure genetic distance between cultivars.[328]

Fundamentally, the catechins, theanine, and caffeine contained in tea provide the basis for its taste and fragrance, but many other known metabolic compounds, such as the terpenoids, and unknown secondary metabolic compounds also determine the flavour of tea.[329] Genomic studies have begun to discover how the differential expression of genes relating to the production of flavonoids and caffeine affect the accumulation of such secondary metabolic compounds that determine tea quality.[330]

In 2017, a complete genome sequence for cultivated *Camellia sinesis* was obtained by a research team at the Kūnmíng Institute of Botany of the Chinese Academy of Sciences headed by Gāo Lìzhì 高立志. With some 302 million base pairs and a total of 36591 genes, tea exhibits an extraordinarily large genome when compared with most sequenced plant species, with the high repeat sequence content accounting for nearly 90% of the entire tea genome.[331] Gāo has long advocated that old forests, the wild relatives of tea, and ancient stands of wild tea trees be safeguarded, as these natural resources present a vast reservoir for novel gene discovery which could be instrumental to the improvement of tea quality. Gāo warns against the impending rapid extinction and severely endangered status of natural wild tea tree populations due to leaf over-harvesting.

Certain cultivars are conventionally regarded as being optimally suited for the production of a particular type of tea, but experimentation is constantly being conducted to test such views and try out new things. For example, although *yabukita* is considered to be a green tea cultivar *par excellence* and generally regarded as unsuitable for the production of black tea, attempts have been made to produce black tree from this variety, and the results have been appraised differently by different appraisers.[332] Leaves of the cultivar *yabukita* were experimentally fermented for a long time inside a cold refrigerator, and this assay was judged to have yielded a good and harmonious black tea aroma.[333]

Fresh tea leaves are virtually odourless, smelling just slightly of a green note. Most floral aromatic compounds are produced by the action of endo-

328 F. Taniguchi, J. Tanaka, I. Kono and T. Mizubayashi. 2007. 'The construction of genetic linkage maps of tea using single sequence repeat markers', *ICOS*, 3, PR-P-004; K.M. Mewan, Malay C. Saha, C. Konstantin, Yong-zhen Pang, I. Sarath B. Abeysinghe and R.A. Dixon. 2007. 'The construction of a genomic and expressed sequence tag and single sequence repeat based genetic linkage map of tea (*Camellia sinensis*)', *ICOS*, 3, PR-P-012; Mehran Gholami, Masoomeh Jamalomidi, Koorosh Falakro and Morteza Gomar. 2007. 'The determination of genetic distance among tea (*Camellia sinensis* L.) genotypes with cytogenetic study', *ICOS*, 3, PR-P-017; Fumiya Taniguchi. 2014. *Development of Genomic Resources and Core Collections of Germplasm for Tea Breeding*. University of Tsukuba doctoral dissertation.

329 Yajun Liu, Liping Gao, Li Liu, Qin Yang, Zhongwei Lu, Zhiyin Nie, Yunsheng Wang and Tao Xia. 2012. 'Purification and characterisation of a novel galloyltransferase involved in catechin galloylation in the tea plant (*Camellia sinensis*)', *Journal of Biological Chemistry*, 287 (53): 44406–44417.

330 Yan Wei, Wang Jing, Zhou Youxiang, Zhao Mingming, Gong Yan, Ding Hua, Peng Lijun and Hu Dingjin. 2015. 'Genome-wide identification of genes probably relevant to the uniqueness of the tea plant (*Camellia sinensis*) and its cultivars', *International Journal of Genomics*, article 527054 ⟨http://dx.doi.org/10.1155/2015/527054⟩.

331 En-Hua Xia, Hai-Bin Zhang, Jun Sheng, Kui Li, Qun-Jie Zhang, Changhoon Kim, Yun Zhang, Yuan Liu, Ting Zhu, Wei Li, Hui Huang, Yan Tong, Hong Nan, Cong Shi, Chao Shi, Jian-Jun Jiang, Shu-Yan Mao, Jun-Ying Jiao, Dan Zhang, Yuan Zhao, You-Jie Zhao, Li-Ping Zhang, Yun-Long Liu, Ben-Ying Liu, Yue Yu, Sheng-Fu Shao, De-Jiang Ni, Evan E. Eichler and Gāo Lìzhì 高立志. 2017. 'The tea tree genome provides insights into tea flavour and independent evolution of caffeine biosynthesis', *Molecular Plant*, 10 (6): 866–877.

332 Tadashi Goto, Tsuyoshi Katsuno, Yoshio Hatanaka, Takuma Ohmiya and Hiroko Umemori. 2013. 'Changes of aromatic components in black tea made from *yabukita* during the manufacturing process', *ICOS*, 5, PR-P-6.

333 Etsuko Yamamoto, Kouichi Matuyama, Koji Masuda, Tomoji Hisose and Hirofumi Yamaguchi. 2010. 'The low temperature fermentation in a refrigerator for a long time provides *Camellia sinensis* var. *sinensis* 'yabukita' black tea aroma', *ICOS*, 4, PR-P-60.

genous enzymes during withering, rolling and fermentation, in which β-primeverosidase, a constitutive enzyme of fresh green tea leaves, plays a major role. Moreover, tea contains essential oils which are an aromatic component responsible for many of its organoleptic properties. At the same time, the proportion of positively and negatively charged isomers of dihydrobovolide also plays a role in determining the nature of the herbaceous grassy notes in tea aroma.[334] During the withering process, which often lasts around twelve hours, various other glycosidic compounds identified as aroma precursors are liberated.[335]

Chemical studies have investigated the natural biochemical composition of what we perceive as the aroma of tea. Monoterpene and sesquiterpene alcohols such as linalool, nerolidol and geraniol, aromatic alcohols such as benzyl alcohol and 2-phenylethanol as well as compounds such as α-farnesene, phenylacetaldehyde, cis-jasmine lactone, cis-jasmone, β-ionone and benzyl acetate strongly contribute to the floral and fruity fragrance of both oolong and black teas. These aromatic compounds, some of which are well known in the perfume industry,[336] derive naturally during the manufacturing process from β-primeveroside.[337] This major glycosidase in fresh tea leaves acts as the key enzyme in aroma formation during tea manufacture. In the manufacture of oolong tea, it was found that parching the tea leaves at a higher temperatures for a shorter time yielded a higher content of *β*-D-glucosidase and polyphenol oxidase than pan firing the tea for a longer time at a lower temperature.[338]

The sweet herbaceous odour exuded by coumarin is characteristic of many an oolong tea, but also of Japanese green teas. Some cultivars are richer in coumarin than others, e.g. Shizu-7132.[339] Newly identified aromatic compounds in Japanese green tea include carbon disulfide, 2-methyl-3-octanone, 6-methyl-2-heptanone, camphor, herb oxide, α-cicrocitral, 2,4,4-trimethyl-cyclohexa-2-en-1-ol, 2,5,5-trimethyl-3,6-heptadiene-2-ol, cuminic aldehyde, hexyl nitrate, methoxy aniline, 2-butanone oxime and cis-3-hexenyl lactate. Previously known major components of green tea aroma, out of over 270 known volatiles, include dimethyl sulfide, methanethiol, 2-methylpropanal, acetone, ethyl acetate, 2-methylbutanal, 3-methylbutanal, 2,3-butandione, pentanal, 1-penten-3-one, α-pinene, hexanal, 5-hexen-2-one, thujene, 3-hexen-2-one, β-myrcene, cumene, α-terpinolene, 1-penten-3-ol, heptanal, limonene, sabinene, cis-3-hexenol and various carotenoid-derived aromatic compounds, such as β-cyclocitral, β-ionone, 5,6-epoxy-β-ionone, β-damascenone, nerolidol and dihydroactinidiolide.[340]

Eight aromatic components consisting of six-carbon aliphatic alcohols and aldehydes have been identified as constituting a green odour. The two major components are cis-3-hexenol or 'leaf alcohol' and trans-2-hexenal or 'leaf aldehyde', the former having first been identified in Japanese green tea.[341] Many compounds containing a formyl

334 Michiko Kawakami, Tadashi Ii, Nobuhiko Ito, Yuko Tadokoro and Akio Kobayashi. 2001. 'Evaluating (+)- and (-)-dihydrobovolide in tea flavour', *ICOS*, 1 (II): 116–119.

335 Xiaochun Wan, Zhengzhu Zhang and Tao Xia. 2001. 'Variations of glycosidic tea aroma precursors, volatile β-D-glucosidase activity and respiration intensity during green tea withering', *ICOS*, 1 (II): 327–330.

336 Jean-Claude Ellena. 2007. *Le Parfum*. Paris: Presses universitaires de France; Jean-Claude Ellena. 2011. *Journal d'un parfumeur*. Paris: Sabine Wespieser Éditeur.

337 Masaharu Misutani, Hidemitsu Nakanishi, Jun-ichi Ema, Etsuko Noguchi, Seung-Jin Ma and Kanzo Sakata. 2001 'β-primeveroside: a unique diglycosidase concerned with the floral aroma formation during tea manufacturing'. *ICOS*, 1 (II): 15–20.

338 Dongmei Wang, Yasuhiro Yamanishi, Jiali Lu, Junjia Li and Qianxia Li. 2007. 'Effects of different panning conditions on the chemical compositions and the activity of enzymes in oolong tea', *ICOS*, 3, PR-P-121.

339 Tomomi Kinoshita, Akio Morita, Bun-ichi Shimizu and Naoharu Watanabe. 2007. 'Coumarin production, a characteristic sweet odorant, during the processing of Japanese green tea', *ICOS*, 3, PR-P-110.

340 Michiko Kawakami and Kaoru Ebisawa. 2007. 'Newly identified aroma compounds in the head gas of Japanese green tea', *ICOS*, 3, PR-P-107.

341 Hironari Kako, Syuichi Fukumoto, Yoko Kobayashi and Hidehiko Yokogoshi. 2007. 'The enhancing effect of

FIGURE 11.34
Yet another tantalising *matcha* concoction advertised inside Central Embassy in Bangkok

group appear to be characteristic of the fragrance of *matcha*.[342] The compound 3-methylnonane-2,4-dione contributes a leafy smell to green teas.[343] Out of the 46 prominent volatile compounds isolated, aromatics shared by all three types of Chinese green tea tested, viz. *lóngjǐng, máofēng, bìluóchūn*, include geraniol, 2-methoxyphenol, coumarin, trans-isoeugenol, vanillin, 4-hydroxy-2,5-dimethyl-3(2*H*)-furanone and 3-hydroxy-4,5-dimethyl-2(5*H*)-furanone. In addition, three different sets of six aromatics could be identified which were specific to each of the three varieties of Chinese green tea.[344]

The high nerolidol content characteristic of oolong tea results from the solar withering, indoor withering and turn-over treatments used in the manufacture of oolong tea and not, as some have conjectured, from the heating of the leaves in preparing the infusion.[345] A number of dimers are characteristic of the polyphenols in oolong tea, such as oolongtheanin-3′-*O*-gallate, but there is yet a dearth of studies on these compounds.[346] The oolong tea *huángjīn guì* 黄金桂 'yellow golden cassia' exhibits a unique orchid-like floral note when compared to the burnt sweet aroma of *tiěguānyīn* 鐵觀音 and the dried fruit-like and herbal

monoamine release by green tea odour components', ICOS, 3, HB-P-204.

342 Takashi Fujita, Toshio Hasegawa, Yasutsugu Tsukomo, Atsushi Takahashi and Kenta Nakajima. 2013. 'Base constituents of the aroma profile of green tea leaves', ICOS, 5, PR-P-1.

343 Hisae Kasuga, Azusa Yokoi, Yoshihiro Yaguchi and Yukihiro Kawakami. 2013. 'The quantitative analysis of 3-methylnonane-2,4-dione in green teas', ICOS, 5, PR-P-4.

344 Ryoko Baba and Kenji Kumazawa. 2013. 'Identification and characterisation of powerful odorants in Chinese green tea (*lóngjǐng, máofēng, bìluóchūn*) infusions', ICOS, 5, PR-P-2.

345 Kaoru Ebisawa, Yasujiro Morimitsu and Kikue Kubota. 2004. 'Is nerolidol formed by steam distillation in oolong tea', ICOS, 2: 232–233.

346 Sayumi Hirose, Kaoru Tomatsu and Emiko Yanase. 2013. 'The formation mechanism of the oolong tea polyphenols oolongtheanins', ICOS, 5, HB-P-40.

medicine fragrance of *shuǐxiān* 水仙 'water sprite'. Ten powerful volatile aromatic components of the floral note of *huángjīn guì* were identified as indole, methyl epijasmonate, jasmine lactone, β-ionone, benzyl alcohol, 2-phenylethanol, linalool, geraniol, phenol and 5-decanolide, with the first five aromatics evidently being the most defining.[347]

An analysis of the odorants in teas from eastern Nepal and Sikkim by headspace gas chromatography reveals that the both Ilām and Sikkimese tea contain a high amount of 3,7-dimethyl-1,5,7-octatrien-3-ol. This aromatic compound, which is considered to be a hallmark fragrance of Darjeeling tea, occurs in higher concentration in teas both from eastern Nepal and from Sikkim than it does in Darjeeling teas. The infusion of Nepalese and Sikkimese teas tested to date are characterised predominantly by linalool, geraniol, methyl salicylate, linalool oxide II, 3,7-dimethyl-1,5,7-octatrien-3-ol and linalool oxide I.[348]

In the composition of the aromatic substances identified in black teas from India and Ceylon, the effects of terroir combine with the consequences of the fermentation. In Indian and Ceylon black teas, some 150 aromatic compounds have been identified. Predominant in Darjeeling teas are linalool, methyl salicylate, geraniol, linalool oxide II and I, 3,7dimethyl-1,5,7-octatrien-3-ol, whereas Assam teas contained high levels of linalool, hexanal, 2-methylbutanal and trans-2-hexenol. Teas from Uva were found to be characterised by high levels of methyl salicylate, linalool and C6 compounds such as trans-2-hexenal. The main aromatics in tea from Nuvara Eliya were found to be linalool, linalool oxide II, cis-3-hexenol and hexenal.[349]

The proportions of the various natural organoleptic biochemicals in tea varies from type to type and also from batch to batch. The composition and proportion of organoleptic substances can be altered through modification of the production process. Experiments are constantly being conducted to ascertain how the tweaking of the manufacturing process changes the olfactory properties of tea. A new oolong tea manufacturing technique used in the Ānxī 安溪 county area of Fukien has been studied that employs air conditioners for the indoor withering followed by a deeper than usual panning using gas burners. Indoor withering at 18°C was found to yield far more 2-phenylethanol, benzyl cyanide, 2-phenylethyl benzoate and indole, whereas the more usual indoor withering at 23 to 25°C yielded more linalool and geraniol. As opposed to oolong teas panned at 250°C for 4 minutes or at 300°C for 3½ minutes, pan parching at 350°C for 2½ minutes was found greatly to enhance the total amount of jasmine lactone, indole, linalool and geraniol.[350]

In the production of Dragon Well (*lóngjǐng* 龍井) tea, the fresh tea leaves are kept for a few hours before being pan-fired so that endogenous enzymes can act to a certain degree and the number of aromatic components can increase. Amongst the 90-odd compounds identified by a gas chromatography olfactometric analysis, the compounds 4-hexanolide plus an unknown compound, β-ionone, 4-nonanolide, furaneol, coumarin and vanillin were identified as the compounds mainly contributing to the flavour. Dragon Well retains a residual moisture content of between 4 and 6% and is particularly susceptible to enzymatic and oxidative reactions during storage that degrade the fatty acids and carotenoids. These reactions can be suppressed by using the product AGELESS®, which maintained oxygen levels at

347 Kikue Kubota, Sayaka Miura, Hitoshi Kinugasa and Takami Kakuda. 2004. 'Potent odorants for discriminating oolong tea varieties', *ICOS*, 2: 234–235.

348 Michiko Kawakami, Takaaki Kuwahara, Toyoaki Takanashi, Takashi Yamaguchi and Jonn Taylor. 2013. 'The aroma characteristics of Himalayan teas', *ICOS*, 5, HB-P-18.

349 Kaoru Ebisawa, Izumi Yamaguchi and Michiko Kawakami. 2007. 'Aroma compounds of the head gas from black teas using the solid phase micro-extraction method', *ICOS*, 3, PR-P-108.

350 Dongmei Wang, Yasuhiro Yamanishi and Yuejiao Chen. 2004. 'Effects of indoor withering and panning on the aroma of oolong tea', *ICOS*, 2: 236–237.

FIGURE 11.35
A *matcha* ice cream sandwich by Häagen Dazs in a university canteen in Tōkyō, along with a matching cold beverage

less than 0.1% during storage of Dragon Well tea in polyethylene terephthalate (PET) bags for six months.[351]

The amount and type of light to which tea leaves are exposed during each phase of the production technique also has measurable effects on fragrance and taste. In processing tea, five minutes of exposure of fresh tea shoots to ultraviolet B radiation at a wavelength of 50 μW cm^{-2} can enhance the flavour of the tea by increasing the amount of aromatic aldehydes, whereas ten minutes of exposure to ultraviolet B activates gene expression for the release of volatiles such as linaloxide I, α-terpineol, cis-linaloloxide, 1,6-octadien-3-ol, 3,7-dimethyl, phenylethyl alcohol, benzyl alcohol and phytol.[352] Exposure of fresh tea to ultraviolet A radiation during manufacturing increases the amino acid content when compared to green tea that has been dried with warm air indoors.[353]

351 Yoko Hashimoto, Rina Kurochi, Shao-Joo Luo, Yuichi Fujii, MasanobuTatsumi and Kikue Kubota. 2004. 'Studies on the potent odorants of Chinese *lóngjǐng* tea and their stability during storage', *ICOS*, 2: 238–239.

352 Q. Ye, G.H. Zhang, J.L. Lu, Y.Y. Du, J.H. Ye, J.J. Dong and Y.R. Liang. 2007. 'The effects of ultraviolet B on aroma formation in tea', *ICOS*, 3, PR-P-104.

353 Hidetoshi Aoki, Yū Daikokuya, Hiroyuki Kumagai and Hidehiro Tomita. 2007. 'The effects of ultraviolet A irradiation on the quality of green tea in the manufacturing process', *ICOS*, 3, PR-P-502; Hidetoshi Aoki, Hirotaka Suzuki and Kazuhiro Sukegawa. 2010. 'An analysis of the increase mechanism in amino acid content of tea

FIGURE 11.36
herushia ヘルシア 'healthy' green tea, containing 540 mg of catechins in a 350 ml bottle, marketed by Kaō 花王

Natural blue light also enhances the epigallocatechin gallate content. There is much to be said, therefore, in favour of natural sunlight.[354]

From the 1880s to the 1920s, the *hiyoke* 日除け or awning was an architectural feature of tea processing spaces and tea tasting rooms in the tea industry at Shizuoka, although this vanished with the advent of artificial lighting.[355] The content of coumarin, caffeine, naringenin and epigallocatechin gallate were nearly doubled when *yabukita* cultivar saplings were exposed to blue light-emitting diode illumination for 24 hours, whereas red light-emitting diode treatment, even

leaves under irradiation with ultraviolet A rays', ICOS, 4, PR-P-18; Hidetoshi Aoki and Hirotaka Suzuki. 2013. 'The effects of ultraviolet A irradiation of fresh tea leaves on the quality of green teas produced from these irradiated fresh leaves', ICOS, 5, PR-P-26.

354 Hidetoshi Aoki, Yosuke Taguchi, Kaneaki Takikawa and Yū Daikokuya. 2010. 'The effects of the irradiation of the various light wavelengths on the quality of green teas manufactured from irradiated fresh leaves', ICOS, 4, PR-P-19.

355 Satoru Nimura. 2004. '*Hiyoke* (shade) found architecture on tea industry at Shizuoka', ICOS, 2: 708–709.

for longer periods, produced mixed and less spectacular results.[356] It turns out that temperature is also a determinant in some particular phases of production, but less so in others. The temperature during withering has an impact on the amount of aromatic compounds generated. Withering at 30°C, but not warmer, is alleged to produce the maximal amount of aromatic compounds, whilst withering at the cool temperature of 15°C is believed to accentuate sweet floral notes.[357] By contrast, when the fermentation of black tea is conducted at low temperatures, this does not appear to have any significant effect.[358]

356 Takeshi Ogawa, Eiji Kobayashi, Yoriyuki Nakamura and Hirokazu Kobayashi. 2010. 'Polyphenol biofortification of tea leaves by exposure to light-emitting diode (LED)', *ICOS*, 4, PR-P-31.

357 Tsuyoshi Katsuno, Emiko Uematsu, Toshiharu Sagisaka, Akihiki Muroya, Yuto Tsuchiya, Takuma Ohmiya, Yoshio Hatanaka and Tadashi Goto. 2013. 'The effects of hot air withering on the green tea aroma prior to green tea processing', *ICOS*, 5, PR-P-7; Yasutaka Suzuki, Tomohiro Oto, Tsuyoshi Katsuno and Hideyuki Kata. 2013. 'Development of new Japanese green tea which raised floral aroma by the manufacturing method of low-temperature storage, rolling and pan-firing', *ICOS*, 5, PR-P-11.

358 Etsuko Yamamoto, Tomoji Hisose and Hirofumi Yamaguchi. 2013. 'Application of low temperature fermentation for black tea to three cultivars of *Camellia sinensis*', *ICOS*, 5, PR-P-8.

CHAPTER 12

Tending the Tea Garden

Sustainable Tea Cultivation

Should we be concerned about how our tea is grown? The terms *natural* and *organic* are incessantly bandied about in the marketplace, and now these have been joined by the buzz word *sustainable*. This word first came into vogue in the foreign aid consultancy business and international development industry in the early 1980s to express the awareness that our collective practice of pillaging the planet is not sustainable. Why should we be concerned about organic natural tea? As a group of Indian tea researchers investigating dimethoate absorption through the tea leaf cuticle observed: 'Tea is an unusual crop where leaves are sprayed directly with pesticides, harvested and processed even without washing'.[1]

Kenneth Rimdahl at Chi:ang Mài is an outspoken advocate of so-called arbor farms, which are ecologically sound plantations with the tea trees spaced widely apart with many other tree species in between so that they form part of an ecosystem. This type of tea plantation reduces the need for pesticides because of the diversity and natural balance. Sustainable biodiverse tea plantations are better for the tea plant and the natural environment than monoculture gardens which have replaced forest habitats demolished by clearcutting. In Japan, before the advent of modern industrial scale tea gardens, tea was evidently once grown in a more sustainable manner. During his sojourn in Japan from 1690 to 1692, Kæmpfer observed:

> … der Theebaum ist eine unansehnliche Staude, der man in diesem engen Lande keinen andern Platz vergönnet, als die Ränder der Aecker, und andere zur Besamung unbequemer Oerter. Es ist aber dennoch die nuzbarste unter allen Pflanzen; indem aus dessen gebratenen groben Blättern das tägliche Hausgetränk abgekocht wird. Die zartesten und jüngsten Blätter aber werden, wenn sie gebraten, gemalen, und mit heißem Wasser zu einer Suppe gemengt sind, unter den Vornehmern den Gästen als ein gewöhnliches Ehrengetränk und nach eingenommener Mahlzeit zum Abschiedstrunk dargereichet.[2]

> … the tea tree is an inconspicuous bush, which is granted no other place in this narrow country than the fringes of fields and to be sown in other inconvenient spots. Nonetheless it is the most useful of all plants because the daily domestic beverage is brewed from its roasted coarse leaves. However, when the most tender and youngest leaves have been roasted, ground and made into a soup with hot water, they are offered amongst high-ranking people to guests as the drink of honour and after the meal as a parting drink.

Ecological diversity and natural balance characterised Japan tea gardens before the advent of modern industrial scale tea gardens with their uncompromising landscape of monoculture. The reason that tea was left to grow on the fringes under half-wild circumstances may have had to do with the fact that the soils were natural and not depleted by crops, whilst the tea trees were not assailed by constant plucking.

As opposed to old tea plantations, wild tea trees are found deep in otherwise untouched forest. They are large and may grow singly or in random clumps or clusters. The unadulterated tea

1 Shivani Jaggi, Bikram Singh and Adarsh Shanker. 2011. 'Distribution behaviour of dimethoate in tea leaf', *Journal of Environmental Protection*, 2: 482–488.

2 Engelbert Kämpfer. 1777. Geschichte und Beschreibung von Japan. Lemgo: im Verlage der Meyerschen Buchhandlung (p. 131).

FIGURE 12.1
A tall *yunomi* 湯呑み tea cup of Hagi ware 萩焼 with the characteristic notch at the base, adding an intentional imperfection, and featuring a spectrum of hues darker than the usual pastel shades seen in Hagi ware

from such jungle trees near the Thai-Burmese border, plucked, often clandestinely, at a distance of several hours walking from the remotest villages, exudes many warm aromatic tones suffused with a light tinge of sourness which has evoked the image of tamarind notes in the minds of some tea drinkers. In fact, the bouquet of fine unadulterated jungle tea can often be characterised by a rich symphony of woody olfactory noises form the heart of the jungle, and the tea yields a burly lingering aftertaste. Genuine jungle tea is picked only once a year in order to spare the wild trees the stress of picking. There is no need for fertiliser here.

Beautiful tea tree gardens with old gnarly trees growing amidst other trees and plants are still carefully tended in pockets of Yúnnán, but many have been replaced by large monoculture plantations blanketing the once lush and ecologically diverse hills. Some of the techniques employed deplete the red soils, giving them a bleached appearance, and ravaging the ecosystem with artificial fertilisers and pesticides. Profit margins, however, increase considerably, and, as Dutch forces in Japan demonstrated during the Shimabara rebellion, Mammon has long been worshipped by many as the one true god, to which all other principles may be sacrificed with alacrity. The finest leaf teas can be quite expensive, but the profits that are gained annually on the sale of shredded and pulverised fully oxidised brown tea of the lowest quality in tea bags, though sold for a pittance, are enormous.

In today's green deserts, the approach is therefore about how to fertilise the tea in order to maximise yield. In Japan, nitrogen fertiliser increased output in the 1960s. From the 1970s, the use of nitrogen fertiliser continued to increase steadily, but tellingly output per hectare did not. At the time that the use of nitrogen fertiliser in the Japanese tea industry peaked, the nitrous oxide emissions from the 50,000 hectares of Japanese tea fields was as great as the nitrous oxide emissions of the 5,000,000 hectares of all the other agricultural land in Japan put together. In response to this ludicrous situation, the use of nitrogen fertilisers in

Japan was greatly reduced, and systematic efforts are being undertaken to reduce their use even further.[3]

Studies have long appeared to indicate that the quality of Japanese green tea strongly correlates with the content of nitrogen in the soil, whilst some other studies have begun to call into question the very utility of nitrogen fertiliser in the tea industry.[4] Although some nitrogen fertiliser somewhat increases overall yield, the increasing use of nitrogen fertiliser beyond a certain threshold yields no measurable benefit and also changes the biochemical composition of the tea leaf, for example by reducing the magnesium content.[5]

The amount of nitrogen fertiliser applied to tea fields in Shizuoka prefecture has been lowered in the noughties in order to reduce the leaching out of nitrate-nitrogen (NO_3-N) into surrounding water systems.[6] Efforts to mitigate nitrogen fertiliser runoff in the form of a natural nitrate removal system have been undertaken by recruiting the sulphur oxidising denitrification bacterium *Thiobacillus denitrificans* together with sulphur limestone for ponds in tea fields.[7]

Not only is nitrogen fertiliser bad for the environment, its use in tea gardens actually reduces the catechin content in the tea leaves of all tea plants tested, although some cultivars are slightly more resilient in their ability to maintain the integrity of their natural biochemical composition than others.[8] Furthermore, the use of nitrogen fertiliser essentially changes the *terroir*, not just chemically but even more so by its impact on the microbiota in the soil.[9] The activity of glutamine synthetase in tea roots increases with the amount of nitrogen application, suggesting that root glutamine synthetase in tea roots is directly affected by the nitrogen content in the soil. However, glutamine synthetase in tea roots is affected not just by the content of NH_4-N, but also by the content of NO_3-N as a source of NH_4-N as supplied via nitrate reduction.[10]

Over-fertilisation runs the risk of accumulating fungi with high denitrifying activity.[11] The addition of fertilisers to the irrigation system is called fertigation, and drip fertigation attempts to reduce the impact of fertilisation by dosing over time. The localised deep placement of super-slow release fertiliser resulted in an approximately 30 % decrease in nitrogen leaching into the environment,[12] and preliminary findings suggest that drip fertigation could increase the quality and yield of *tencha* whilst minimising the effects of nitrous oxide emission and nitrogen leaching into the surrounding waters.[13]

3 Kunihiko Nonaka. 2007. 'Fertiliser application technology for improvement of nitrogen utilisation in tea fields', *ICOS*, 3, PR-S-06.

4 Kunihiko Nonaka, Ikuo Watanabe, Yuhei Hirono and Kiyoshi Matsuo. 2004. 'Rough estimation of the input and output of nitrogen in a tea field and characteristics of nitrate nitrogen movement in tea field soil', *ICOS*, 2: 311–312.

5 Saroja Ananthacumaraswamy, Laksman Hettiarachchi and Gemini Gunaratne. 2007. 'Responses of a high yielding vegetatively propagated tea to urea and muriate of potash applications in the wet zone upcountry region of Sri Lanka', *ICOS*, 3, PR-P-307; Mitsuaki Narushima. 2007. 'The effect of nitrogen fertiliser on the growth and the yield of tea plants', *ICOS*, 3, PR-P-310.

6 Yuhei Hirono, Ikuo Watanabe, Kiyoshi Matsuo and Kunihiko Nonaka. 2004. 'Trends in water quality around an intensive tea growing area', *ICOS*, 2: 290–291.

7 Kiyoshi Matsuo, Yasuhiro Hirado and Toshiaki Miyanaga. 2004. 'A long-term water bioremediation trial of a small pond surrounded by tea fields in Shizuoka, Japan', *ICOS*, 2: 292–293.

8 Akiko Matsunaga, Atsushi Netsumi and Tetsuji Saba. 2007. 'The effects of nitrogen fertiliser on the chemical composition of tea leaves', *ICOS*, 3, PR-P-303.

9 Y. Shimizu, A. Morita, N. Narushima, Y. Nakamura, K. Kimbara and F. Kawai. 2007. 'An analysis of microbial floras in the soils of Japanese tea fields enriched with nitrogen fertilisers', *ICOS*, 3, PR-P-305.

10 Setsuko Maeda, Akio Morita, Tomokazu Takada, Masami Aoyama and Hiromi Yokota. 2004. 'Effects of the nitrogen condition on the activity of glutamine synthetase in tea plants', *ICOS*, 2: 319–320.

11 Takaaki Goto and Reiko Sameshima. 2010. 'The dominance of fungal denitrification in high N_2O emission tea fields', *ICOS*, 4, PR-P-49.

12 Kunihiko Nonaka and Yuhei Hirono. 2010. 'Application of super-slow release fertiliser for the improvement of nitrogen utilisation in tea fields', *ICOS*, 4, PR-P-46.

13 Tadataka Kinoshita, Hirotaka Tsuji, Kiyotaka Hiei and Masaki Tsuji. 2004. 'The effect of the drip fertigation

The tea plant appears to detoxify aluminium in the soil by converting it to aluminium oxalate.[14] Tea plants grow well under acidic conditions, in which the amount of available phosphate is decreased to a low level by the formation of insoluble phosphate compounds with aluminium ions,[15] but whilst the presence of aluminium in the soil stimulates the growth of tea plants, the optimal aluminium content for the growth of the tea plant resulted in a reduced content of phenolics through a reduction of the activity of phenylalanine ammonia-lyase, leading to less catechins in the tea leaves.[16] Aluminium appears to bind to form either aluminium oxalate or aluminium citrate compounds both in the roots and leaves of tea plants.[17]

It was found that the application of ammonium, i.e. the cation NH_4^+, to growing tea plants decreased the oxalate content in the young tea leaves through the suppression of oxalate synthesis via ascorbic acid oxidation and the stimulation of oxalate decomposition by oxalate oxidase.[18] An experiment in Iran demonstrated that the addition of copper to the soil resulted in a measurable increase in tea yield, whereas the addition of zinc did not.[19] It has also been found that amino acids could be used as a nitrogen source by tea plants.[20] In Shizuoka prefecture, farmers cover furrows in green tea fields with grass of the species *Miscanthus sinensis* and *Pleioblastus chino* in the autumn and winter seasons, and this practice is regarded as beneficial.[21] In terms of the 'need' for fertilisers, potential targets for the genetic improvement of the tea plants themselves have also been identified.[22]

Organic tea is grown without the use of pesticides, herbicides or growth stimulants, and its cultivation is supposed to have no adverse effects on the environment and the humans that harvest it. Consumers will increasingly come to demand organic green tea, but the demand for organic tea and ecologically low-impact cultivation practices also comes from tea researchers. The use of artificial fertilisers is reduced or eliminated in organic farming, thereby reducing the amount of nitrous oxide run-off into the environment. Fertilisation is meant to compensate for nutrients depleted from the soil by crop harvesting and through natural run-off after rainfall. At many commercial tea plantations, between 240 and 300 kg of nitrogen are applied per hectare annually, and about half as much potassium. In addition every two years, between 60 and 90 kg of phosphorus in the form of diphosphorus pentoxide P_2O_5 is added per hectare. Magnesium and zinc are only added to soils

system on the yield and quality of *tencha*', ICOS, 2: 325–326; Masahiro Kasuya, Tadataka Kinoshita, Masaki Tsuji and Kiyotaka Hiei. 2004. 'Reduction of nitrous oxide emission from tea fields by the drip fertigation system', ICOS, 2: 327–328.

14 Setsuko Maeda, Osamu Yanagisawa, Satoshi Takatsu, Syuntaro Hiradate and Akio Morita. 2007. 'Oxalates detoxify in the roots of tea plants (*Camellia sinensis* (L). Kuntze)', ICOS, 3, PR-P-305.

15 Ryuta Futana, Akio Morita and Hiromi Yokota. 2004. 'Phosphate deficiency induces acid phosphatase activity in tea plants', ICOS, 2: 313–314.

16 Tsuyoshi Ogawa, Akio Morita, Atsuko Kondo and Hiromi Yokota. 2004. 'Effects of aluminium and phosphorus on phenylalanine ammonia-lyase activity and the phenolics content of tea plants', ICOS, 2: 329–330.

17 Osamu Yanagisawa, Satoshi Takatsu, Syuntaro Hiradate and Akio Morita. 2004. 'Chemical forms of aluminium in the roots of tea plants (*Camellia sinensis* L.)', ICOS, 2: 317–318.

18 Risa Suzuki, Akio Morita and Hiromi Yokota. 2004. 'Ammonium application decreases the content of oxalate in tea leaves', ICOS, 2: 315–316.

19 Farid Bagheri, Mehran Gholami, Behrooz Alinaghipoor, Shiva Rofigari Haghighat and Seid Ahmad Taghi Shokrgozar. 2007. 'The response of tea quality and quantity parameters to zinc and copper foliar', ICOS, 3, PR-P-311.

20 Akio Morita, Masako Harano, Tatsuaki Tanaka and Hiromi Yokota. 2004. 'The uptake of amino acids by tea plants', ICOS, 2: 323–324.

21 Hidehiro Inagaki, Yoshinobu Kusumoto, Nobusuke Iwasaki, Syuntaro Iwasaki and Shori Yamamoto. 2010. 'Biodiversity evaluation of *chagusaba*, semi-natural grassland maintained by green tea cultivation', ICOS, 4, PR-P-36.

22 Fumiya Taniguchi and Junichi Tanaka. 2004. 'Characterisation of genes for ammonium assimilation in *Camellia sinensis*', ICOS, 2: 217–218.

FIGURE 12.2 A tea plantation in Shizuoka prefecture, where organic farming practices have been implemented and where Japanese tea pickers still pluck tea by hand on steep slopes whilst singing traditional Japanese tea harvesting songs

that are deficient in either of these minerals, such as in some tea plantations of eastern Africa, the Indian subcontinent or Sri Lanka.[23]

Assailants of the Tea Plant

Caffeine and theobromine are part of the phytochemical defence mechanism of the tea plant against insect predators and fungal blights. Notwithstanding such natural defences, there are hosts of species which attack the tea plant, yet these species too have natural predators. One of the strategies of organic, natural or sustainable pest control is to recruit the natural enemies of tea pests as well as their pathogens. When a natural balance obtains, as in the case of wild tea trees growing in the jungle, the sheer species diversity ensures that there will be constant pest control, striking a natural balance in a tangled symphony of predation. Some tea pests cause destruction of the tea leaves and are paradoxically nonetheless beneficial to the tea planter.

An overview of species which assault the tea tree in East Asia begins with the leaf feeders, such as the tea tussock moth *Euproctis pseudoconspersa*, the tea geometrid *Ectropis obliqua*, the tea bagworm *Cryptothelea miniscula*, the tea eucleid *Iragoides fasciata*, the smaller tea tortrix *Adoxophyes orana*, the tea leaf roller *Caloptilia theivora*, the tea weevil *Myllocerinus aurlineatus*, the tea leaf beetle

23 Chen and Chen (2012) in Chen, Apostolides and Chen (op.cit.).

Demotina fasciculata and the tea horned breast leaf beetle *Basilepta melanopus*.[24]

A retinue of piercing and sucking insects likewise attack the tea tree directly, such as the tea green leafhoppers *Empoasca vitis* and *Empoasca flavescens*, the tea aphid *Toxoptera aurantii*, the citrus spiny whitefly *Aleurocanthus spiniferus*, the green mirid bug *Lygus lucorum*, the tea mosquito bugs *Helopeltis* sp., the tea yellow thrips *Scirtothrips dorsatis*, the green broad-winged plant hopper *Geisha distinctissima*, the pear white scale *Lopholeucaspis japonica*, the Japanese wax scale *Ceroplastes japonicus*, the horned wax scale *Ceroplastes ceriferus* and the red wax scale *Ceroplastes rubens*.

Various species of mites can also infest a tea shrub, such as the tea pink rust mite *Acaphylla theae*, the tea yellow mite *Polyphagotarsonemus latus* or the coffee red spider mite *Oligonychus coffeae*. The boring insects that assault the tea shrub include the Chinese tea oecophorid *Casmara patrona*, the tea xylorictid *Linoclostis gonatias*, the tea long-horned beetle *Aeolesthes induta*, the tea stem girdler *Agrilus* sp. and the tea shot-hole borer *Xyleborus fornicatus*. Assailants that can approach the tea shrub from underground include the copper green chafer *Anomala corpulenta*, the giant cricket *Brachytrupes portentosus*, the African mole cricket *Gryllotalpa africana* and the Formosan white termite *Odontotermes formosanus*. One species even specifically targets the seeds of the tea plant, viz. the tea seed weevil *Curculio chinensis*.

This litany of pests should leave the organic tea planter undaunted, however, for a healthy ecological balance can ensure that there are numerous species which combat these many assailants of the tea plant. More than two hundred species of parasitic insects and more than three hundred species of predatory insects have been identified that are the natural enemies of tea parasites. Prominent amongst the numerous natural enemy insects of tea pests are *Cocinella septempunctata, Leis axyridis, Plopylaea japonica, Cicindella chinensis, Apanteles* spp., *Aphidus* sp., *Xanthopimpla punctata, Bracymeria lasus, Anicetus ceroplastis, Pediobius* spp., *Aphytis* sp., *Telenomus* sp., *Trichogramma confusum, Exorista sorbillans, Chrysopa sinica, Agriosphodrus dohrni* and *Mantis religiosa*.

The most renowned syrphids are *Sphaerophoria menthastri* and *Syrphus corollae*, and prominent amongst the spider species that prey upon tea insect pests are *Coleosoma octomaculatum, Erigonidium graminicolum, Singa hamata, Agelena labyrinthica, Oxyopes sertatus, Xysticus ephippiatus, Misumenops tricuspidatus, Evarcha albaria* and *Plerippus paykulli*. In China, the more savvy tea farmers have already begun reducing the application of chemical insecticides to avoid killing the natural enemies of tea parasites and pests. Batches of *Trichogramma* spp. have been reproduced and released to combat tea tortrices.

Other natural foes of tea pests which can be recruited include over eighty species of entomopathogenic viruses, one entomopathogenic bacterium species and forty-four species of entomogenous fungi. These microbes can be incorporated in so-called biopesticides. The most frequently seen viruses plaguing tea pests include the tea tussock moth nuclear polyhedrosis virus, the tea tussock moth cytoplasmic polyhedrosis virus, the tea geometrid nuclear polyhedrosis virus and the smaller tea tortrix granulosis virus. Often seen entomogenous fungi afflicting the insect pests that plague tea include *Zoophthora radicans, Cordyceps militaris, Septobasidium pedicellatum, Beauveria bassiana, Paecilomyces* spp. and *Aschersonia aleyrodis*. Biopesticides that have been sprayed with the aim of infecting tea pests contain entomopathogenic viruses, an entomopathogenic bacterium and entomogenous fungi, including *Aegerita webberi* and *Aschersonia aleyrodis*.[25]

24 Maki Yoshizaki and Akihito Ozawa. 2007. 'The seasonal occurrence and feeding habits of the leaf beetle *Demotina fasciculata* Baly (Cileoptera: Chrysomelidae) in tea fields and its oviposition behaviour', *ICOS*, 3, PR-P-409.

25 Baoyu Han, Dan Mu and Huagang Qin. 2007. 'Integrated pest management of tea gardens in China', *ICOS*, 3, PR-S-04.

FIGURE 12.3 *Jacobiasca formosana*, the tea green leafhopper species responsible for the honey aroma of the Formosan tea *dōngfāng měirén* 東方美人 'Oriental Beauty' or *phòng-hong-tê* 膨風茶 'braggart's tea', as photographed by entomologist Shipher Wu (*Wú Shìwěi* 吳士緯) of Taipei

Knowledge about the life cycle and feeding strategies of pests is also a helpful weapon in the arsenal of knowledge that can be used in environmentally friendly and ingenious ways. The pests which mainly attack new flushes include the tea green leafhopper *Empoasca onukii*, the yellow tea thrips *Scirtothrips dorsalis*, the tea leaf roller *Caloptilia theivora* and the black citrus aphid *Toxoptera citricidus*.[26] The pests which mainly attack matured leaves include the lesser tea tortrix *Adoxophyes honmai*, the Oriental tea tortrix *Homona magnanima*, the mugwort looper *Ascotis selenaria* and the Kanzawa spider mite *Tetranychus kanzawai*. The mulberry scale *Pseudaulacaspis pentagona* damages bark, and the yellowish elongate chafer *Heptophylla picea* devours roots.

The Formosan tea Oriental Beauty *dōngfāng měirén* 東方美人 or 'braggart's tea' *phòng-hong-tê* 膨風茶 exudes a pronounced honey aroma and a rich flavour with a spicy note. This exquisite tea is produced in Hsinchu 新竹 county by a high degree of fermentation of tea leaves that are infested with the tea green leafhopper *Jacobiasca formosana*, using the *chhi^{n}sim tōaphà^{n}* 青心大冇 cultivar. The fermentation process initially yields a great quantity of the compound 2,6-dimethyl-3,7-octadiene-2,6-diol, and then ultimately yields high amounts of linalool, linalool oxides, 3,7-dimethyl-1,5,7-octatrien-3-ol, 2-phenylethanol and geraniol. In *phòng-hong* tea, the high proportion of the aromatic compounds 2-phenylethanol, benzyl alcohol, linalool oxides, 2,6-dimethyl-3,7-octadiene-2,6-diol and 3,7-dimethyl-1,5,7-octatrien-3-ol rend-

26 Yukio Ando. 2004. 'The present conditions of pesticide spraying and future condition in Japanese tea', *ICOS*, 2: 74–76; Yoshio Yusa. 2004. 'Current status of pesticide residue analysis methods concerning tea commodities in Japan', *ICOS*, 2: 82–84.

er the tea very distinct in fragrance from Pouchong tea, which is manufactured from non-infested leaves through a low degree of fermentation.[27]

In the manufacture of the Oriental Beauty tea, analyses have shown that the infestation with the tea green leafhopper *Jacobiasca formosana* results in the accumulation of saccharides of the raffinose family as a plant defence response against abiotic stress, leading to higher levels of sucrose, galactinol, fructose, myo-inositol and raffinose in Oriental Beauty, produced from infested leaves as compared with the same tea produced from non-infested leaves.[28] The presence of tea pests can evidently be a boon to tea, rather than solely a bane.

Other biochemists have identified the specific volatile synomone liberated from the tea plant when under attack by herbivorous insects like the tea geometrid *Ectropis obliqua*, the tea aphid *Toxoptera aurantii* and the tea leafhopper *Empoasca vitis*.[29] Infestation with these very tea leafhoppers results in the muscatel fragrance for which many Darjeeling teas are justly famous. Similarly, experiments in Japan have shown that the infestation with the Japanese species of the tea green leafhopper *Empoasca onukii* yields similar aromatic effects in tea by inducing the production of the compound 2,6-deimethylocta-3,7-diene-2,6-diol. This compound appears in the terminal bud and in the first and the second leaf, with the concentration being highest in the second leaf. The compound is not produced unless the tea plant is infested by tea green leafhopper, and infestation by other pests such as the yellow tea thrips *Scirtothrips dorsalis* does not induce the production of the compound.[30]

Physical Tea Pest Control

The old trick of using flypaper to capture flies has been reinvented in China. At some tea plantations, sticky boards have been erected with different colour schemes especially developed to attract the adults of the black spiny whitefly *Aleurocanthus spiniferus* and aphids, based on the specific colour taxis of these insect pests. Three hundred boards used in a one-hectare tea garden can attract between 300,000 and 500,000 adults, an effectiveness comparable to that of control methods using chemical pesticides.[31] Elsewhere ecological measures are likewise being innovated that leave no chemical residue.

In Japan, prototype blowers have already been successfully tested that generate a mist current at a velocity of over 20 metres per second and remove 75% of the eggs and more than 80% of the adult Kanzawa spider mites from tea leaves and likewise physically capture other insect pests around the tea canopy.[32] In 2002, the National Institute of Vegetables and Tea Science in Japan developed a blower-type insect trapping machine with an air flow of 15 to 20 metres per second, in which a

27 Miharu Ogura, Ikuo Terada, Fumiharu Shirai, Kazuhiko Tokoro, Kuo-Renn Chen, Chun-Liang Chen, Mu-Lien Lin, Bun-ichi Shimizu, Tomomi Kinoshita and Kanzo Sakata. 2004. 'Tracing changes in aromatic characteristics during the processing of the famous Formosan oolong tea Oriental Beauty', *ICOS*, 2: 240–242.

28 Jeong-Yong Cho, Bun-ichi Shimizu, Tomomi Kinoshita, Masaharu Mizutani, Kuo-Renn Chen, Chun-Liang Chen and Kanzo Sakata. 2004. 'Chemical profiling in the manufacturing process of Oriental Beauty', *ICOS*, 2: 260–262.

29 Chen Zongmao, Xu Ning, Han Baoyu and Zhao Dongxiang. 2004. 'Chemical communication between tea plant herbivore natural enemies', *ICOS*, 2: 90–93.

30 Akihito Ozawa, Toru Uchiyama and Tomomi Kinoshita. 2013. 'Factors affecting the production of diol (2,6-deimethylocta-3,7-diene-2,6-diol) induced by the infestation with the tea green leafhopper *Empoasca onukii* Matsuda in new shoots of tea plants in Japan, parts 1 and 2', *ICOS*, 5, PR-P-9 and PR-P-10.

31 Zongmao Chen. 2010. 'The contributions of scientific innovations and environmentally friendly strategies on the development of the Chinese tea industry', *ICOS*, 4, PR-S-10.

32 Masahiro Miyazaki, Mitsuyoshi Takeda, Shunji Suzuki, Daisuke Miyama, Takuya Araki, Yasusi Sato, Jun Kageyama and Hitoshi Terada. 2004. 'Development of blower type capture for insect pests of tea plants', *ICOS*, 2: 300–301.

FIGURE 12.4 In sloping tea gardens at the edge of the forest in Shizuoka prefecture, fans operating at strategic intervals mechanically prevent Kanzawa spider mites and certain other species from nestling into the tea canopy.

water mist blows the insects from the surface of tea bushes into catch bags. In 2010, a new riding-type insect trapping vehicle with a low centre of gravity was introduced for use on sloping tea fields. Even on slopes at a 15° angle of incline, the vehicle is not prone to slippage, descent or loss of control.[33] A similarly mechanical approach in Japan involves fans on poles above tea gardens that are employed to ward off frost.

33 Osamu Sumikawa, Takuya Araki, Daisuke Miyama, Hitoshi Terada, Yoshikazu Takewaka, Kimiaki Murai, Eiji Nishino, Seiichi Yoneyama and Koji Wakahara. 2010. 'Development of a blower-type insect trapping machine for sloping tea fields', *ICOS*, 4, PR-P-53.

In Pursuit of Environmentally Friendly Biological Warfare

Studies show that organic farming conserves the species diversity of arthropod predators in tea fields.[34] Working with nature rather than against her yields insights into the web of predation. The mulberry scale or white peach scale *Pseudaulacaspis pentagona* is one of the more destructive insect pests of tea plants in Japan. The application of various pesticides in Shizuoka prefecture are believed to have aggravated the severe problem of tea leaf discolouration and tea bush death

34 Hiroshi Suenaga. 2010. 'The impact of organic farming on the species diversity of soil-dwelling arthropod predators in tea fields in Japan', *ICOS*, 4, PR-P-56.

FIGURE 12.5 Spider sacs in an organic tea garden in Shizuoka, where the finest quality *sencha* and *gyokuro* are produced in harmony with nature

because the pesticides are generally more lethal to the natural predators of the mulberry scale than to the pest itself. These chemicals also directly affect the exposed predacious insects and hardly reach the mulberry scale, which infests the tea trees deep below the canopy. A great number of species of parasitic wasps, predacious beetles, gall midges and other predacious insect species were found to abound at precisely those times that their prey, the mulberry scale, was found to emerge.[35]

35 Akihito Ozawa. 2004. 'Species composition and seasonal prevalece of natural enemies of the mulberry scale *Pseudaulacaspis pentagona* (Targioni) on tea trees in Shizuoka prefecture, Japan', *ICOS*, 2: 343–344; Kubota Sakae. 2004. 'Altitudinal differences in the diapause of the white peach scale *Pseudaulacaspis pentagona* in tea fields', *ICOS*, 2: 345–346.

Although plucking naturally represents an assault on the tea tree as an organism, it has been shown that carefully timed plucking may actually serve as a pest management method in tea fields because the larvae and eggs of certain pests, such as *Adoxophyes honmai, Homona magnanima* and *Caloptilia theivora*, were found to be largely removed when the pluck was well timed.[36] In a similar vein, rice bran has been sprayed on and under tea trees in Japan, thus furnishing an ideal substrate for fungi that plague tea pests such as the mulberry scale *Pseudaulacaspis pentagona* and the spiny whitefly *Aleurocanthus camelliae*, and this practice has resulted in a measurable

36 Shigehiro Kodomari. 2004. 'The effect of plucking on the occurrence of tea insect pests', *ICOS*, 2: 347–348.

drop in the number of these tea pests in the tea fields thus treated.[37] Environmentally friendly alternatives to pesticides in combatting the Oriental tea tortrix *Homona magnanima* and the lesser tea tortrix *Adoxophyes honmai* were successfully tested in Japan in 2004 and 2005. Disrupting their communications during the mating cycle by dispensing sex pheromones resulted in the same reduction in the population of these pests as does the use of pesticides. It was also found that the population of the mulberry scale *Pseudaulacaspis pentagona* could be reduced by introducing *Arrhenophagus albitibiae*, the dominant parasite amongst the three identified natural parasites afflicting the mulberry scale.[38]

India also researches biopesticides and biofertilisers using plant growth promoting rhizobacteria and vesicular arbuscular mycorrhiza fungi at the tea research station established at Tocklai in 1912. The Tea Board of India, established in 1953 under the Ministry of Commerce, acts as a facilitator for the development of the tea industry in India and promotes tea research. The Darjeeling Tea Research and Development Centre was established at Kurseong in 1977. The United Planters' Association of Southern India (UPASI), founded in 1926, began to maintain its own tea scientific department, which became a full-fledged Tea Research Institute in 1999. The association serves 143 member estates and about 12,000 small holders from seven regional stations.[39] The use of biopesticides containing the entomopathogenic fungus *Paecilomyces lilacinus* has been in use to combat termites since the 1990s. Tea researchers in Tocklai have been exploring the feasibility of integrating a native entomopathogenic fungus, *Metarhizium anisopliae*, into such a biopesticide for use in tea plantations in northeast India.[40]

The red spider mite *Oligonychus coffeae*, which causes annual crop losses of between 7 and 10% on tea estates in northeast India, is afflicted by various native species of entomopathogenic fungi such as *Verticillium lecanii, Paecilomyces lilacinus* and *Fusarium oxysporum*. Recently, red spider mites were found to be susceptible to a hitherto unreported native strain of entomopathogenic fungus, *Hirsutella thompsonii*, which infects from between 0.6 to 9.4% of the red spider mites on the leaf samples collected from different estates in northeast India. At Tocklai, the possibility of recruiting these natural enemies for the development of an environmentally friendly biopesticide is being studied.[41]

A study of predatory mite fauna conducted from 2007 to 2009 in tea fields in Shizuoka prefecture identified nine species of the family Phytoseiidae, eight of which were domestic Japanese species, viz. *Neoseiulus womersleyi*, *Neoseiulus barkeri*, *Amblyseius eharai*, *Amblyseius orientalis*, *Amblyseius obtuserellus*, *Euseius sojaensis*, *Gynaeseius liturivorus* and *Typhlodromus* (*Anthoseius*) *vulgaris*, and the exotic species *Phytoseiulus persimilis*. The number of species in any given tea field ranged from one to five, the most prevalent species being *Amblyseius eharai*, *Neoseiulus womersleyi*, *Euseius sojaensis* and *Amblyseius obtuserellus* in that order. These species are natural enemies of the tea pest, the Kanzawa spider mite.[42]

37 Ryosuke Omata. 2013. 'Repression of the white peach scale *Pseudaulacaspis pentagona* (Targioni) and the camellia spiny whitefly *Aleurocanthus camelliae* Kanmiya & Kasai by spreading rice bran into tea bushes', *ICOS*, 5, PR-P-66.

38 Akihito Ozawa. 2007. 'Natural conservation and the biological control of the mulberry scale *Pseudaulacaspis pentagona* (Targioni) and integrated pest management with communication disruption using the sex pheremones of the tea tortrices', *ICOS*, 3, PR-P-407.

39 Chakraborty and Chakraborty (2004); N.K. Jain. 2007. 'Tea in India', *ICOS*, 3, JS-02.

40 S. Debnath, A. Rahman, Rakhi Phukan, M. Borthakur, M. Sarmah and B.K. Barthakur. 2007. 'The prospects of termite control in tea plantations of northeast India with native entomopathogenic fungi', *ICOS*, 3, PR-P-411.

41 S. Debnath. 2004. 'Natural occurrence of the entomopathogenic fungus *Hirsutella thompsonii* on red spider mite *Oligonychus coffeae* (Neitner) infesting tea plants *Camellia sinensis* L. (O.) Kuntze in northeast India', *ICOS*, 2: 333–334.

42 Akihito Ozawa, Toru Uchiyama and Shingo Toyoshima. 2010. 'Studies on the predatory mite fauna (Acari: Phytoseiidae) on tea trees in Shizuoka prefecture, Japan', *ICOS*, 4, PR-P-50.

FIGURE 12.6 The Oriental tea tortrix *Homona magnanima*, as photographed by entomologist Shipher Wu (*Wú Shìwěi* 吳士緯) of Taipei

Large red mites of the species *Anystis baccarum* were first observed traipsing about on tea shoots in Japanese fields at the first tea harvest of 1995. These predatory mites prey on the Kanzawa spider mite *Tetranychus kanzawai*, the black citrus aphid *Toxoptera aurantii*, the early larval stage of the Oriental tea tortrix *Homona magnanima* and the green tea leafhopper *Empoasca onukii*, and on the eggs of the Indian wax scale *Ceroplastes ceriferus* and the mulberry scale *Pseudaulacaspis pentagona*.[43] The citrus spiny whitefly *Aleurocanthus spiniferus* was first observed as a new pest on tea plants in Kyōto in 2004. Their natural enemy, the wasp *Encarsia smithi*, plays an important role in controlling the citrus spiny whitefly population.[44]

Lesions by the tea anthracnose fungus *Colletotrichum theaesinensis* were found to be reduced by half by antagonistic competition of epiphytic fungi of the genus *Sporothrix*. These natural residential antagonists already abound on the tea phylloplane without artificial inoculation.[45] Similarly, the application to the soil of the nematode *Steinernema kushidai* kills the scarabaeid larvae of *Heptophylla picea* and so results in an increased number of tea buds at the first crop. These nematodes live for two years, but their activity is reduced at soil temperatures below 20°C.[46] Attempts have

43 Ryosuke Omata. 2010. '*Anystis baccarum* (Linnaeus) protects tea field against pest insects', ICOS, 4, PR-P-54.

44 Koji Yamashita, Atsushi Kasai and Yutaka Yoshiyasu. 2010. 'Integrated pest management (IPM) for *Aleurocanthus spiniferus* (Quaintance) (Homoptera) using natural enemies in tea fields', ICOS, 4, PR-P-57.

45 Kengo Yamada. 2004. 'Tea phylloplane fungus antagonistic to tea anthracnose fungus *Colletotichum theaesinensis*', ICOS, 2: 338–339.

46 Yukio Ando and Michtiyuki Oishi. 2004. 'Control of of the scarabaeid larvae *Heptophylla picea* on tea by the entomopathogenic nematode *Steinernema kushidai*', ICOS, 2: 340–342.

been made to control Kanzawa spider mites (*Tetranychus kanzawai*) with a 'sustainable' insecticide rather than with the controlled acaricide milbemectin.[47]

Chinese biochemists have investigated the chemical composition of the honeydew secreted by tea aphids *Toxoptera aurantii*, which attack tea plants in China from mid April to mid May and from mid September to mid October, in an attempt to ascertain whether natural biochemical components of the honeydew might be isolated and used to attract the natural predators of these aphids, such as lacewings, aphid parasitoids, ladybirds and syrphids, including *Coccinella septempunctata, Chrysopa sinica, Aphillius* sp., *Leis axyridis, Chrysopa septempunctata* and *Sphaerophoria menthastri*.[48] Sometimes technical scientific knowledge requires enhancement in the form of restraint and common sense. For example, a high mortality of over 83% was achieved in *Ectropis obliqua* by infecting these moths with a recombinant baculovirus, engineered at the Tea Research Institute of Zhèjiāng University. However, the genetic engineering of viruses that disrupt a process as fundamental as the formation of chitin in insects could have disastrous ecological consequences for our planet's natural environment.[49]

Two moths, the Oriental tea tortrix *Homona magnanima* and the lesser tea tortrix *Adoxophyes honmai* have in modern times been controlled by insecticides which are often sprayed as frequently as four to six times a year, but new research has shown that the use of moth sex pheromones yields just as effective results by disrupting the breeding cycle of these moth species.[50] Biological warfare against the moths has also been explored using two strains of insect granulosis virus. The resultant sprayable cocktail consist of equal portions of the Oriental tea tortrix *Homa* granulovirus and the summer fruit tortrix granulovirus, which specifically attack only these moth species.[51] In addition, wasps of the species *Trichogramma dendrolimi* have been recruited by organic tea gardeners to parasitise the eggs and larvae of the lesser tea tortrix *Adoxophyes honmai*.

Another pest afflicting tea plants is the red spider mite *Oligonychus coffeae*. Rather than using acaricides to combat the spider mites, researchers in India, China and Japan have pioneered organic means to combat them by disseminating the spores of natural entomopathogenic fungi which afflict these and other mite species living on tea, i.e. *Verticillium lecanii, Paecilomyces fumosoroseus, Paecilomyces tenuipes* and *Hirsutella thompsonii*.[52] The fungus *Aegerita webberi* is used against the citrus black spiny whitefly *Aleurocanthus spiniferus*. Researchers in Táiwān have investigated the efficacy of enlisting the services of the green lacewing *Mallada basalis* in combatting the two spider mites species *Oligonychus coffeae* and *Tetranychus kanzawai*.[53]

The tea green leafhopper *Empoasca onukii* is one of the major insect pests found on tea plants in Japan with few natural predators, so that this pest has hitherto been largely contained by the use of insecticides. Researchers in Japan have now

47 Joo Yoo and Min Seuk Lee. 2004. 'Selected sustainable insecticide about Kanzawa spider mites (*Tetranychus kanzawai*)', *ICOS*, 2: 347–348.

48 Han Baoyu and Chen Zongmao. 2004. 'Secreting rhythm and the components of the tea aphid honeydew and its attracting activity to nine species of natural enemies', *ICOS*, 2: 86–89.

49 C. Lin, J.L. Lu, J.J. Dong, J. Jin, Y.Y. Du, J.H. Ye and Y.R. Liang. 2007. 'The suppression of chitin synthase gene expression in *Ectropis obliqua* larvae by the double strand RNA insertion method', *ICOS*, 3, PR-P-410.

50 Yasushi Sato. 2001. 'Integrated management of tea torticids in Japan', *ICOS*, 1 (II): 225–228.

51 Shoji Asano, Katsuhisa Fukunaga and Akira Takai. 2001. 'Development of an insect granulosis virus formation BCGV-1 for controlling both the Oriental tea tortrix *Homona magnanima* and the lesser tea tortrix *Adoxophyes honmai* in Japan', *ICOS*, 1 (II): 248–251.

52 Muraleedharan N. 2001. 'Evaluation of three entomopathogenic fungi for the control of red spider mites', *ICOS*, 1 (II): 82–85.

53 Suh-Neu Hsia. 2001. 'Effect of the green lacewing *Mallada basalis* (Walker) on the spider mites *Oligonychus coffeae* (Nietner) and *Tetranychus kanzawai* (Kishida) on tea plantations', *ICOS*, 1 (II): 86–89.

FIGURE 12.7
A Kathmandu tea stall with a striking name and motif

investigated the efficacy of recruiting two species of spider, *Trachelas japonica* and *Philodromus subaureolus*, in the fight against the tea green leafhopper.[54] Similarly, researchers in Japan have investigated combatting the tea rust mite *Acaphylla theavagrans* by introducing its natural predator, the predacious mite *Amblyseius womersleyi*.[55]

One of the most popular microbial pesticides in use by organic tea farmers is a sprayable solution of *Bacillus thuringiensis*, which selectively infects lepidopterous insect pests. However, a continuous evolutionary arms race has ensued whereby the toxins in *Bacillus thuringiensis* must be periodically managed in order that they be made to co-evolve in order to overcome resistance in insects.[56] Sprayable solutions of *Beauveria bassiana* and *Aegerita webberi* are also used in the same fashion. Organic tea planters have even recruited

54 Yukio Kosugi. 2001. 'Predation of two species of spiders *Trachelas japonica* Bos. et Str. and *Philodromus subaureolus* Bos. et Str. on the tea green leafhopper *Empoasca onukii* Matsuda in tea fields', *ICOS*, 1 (11): 229–232.

55 Mohammed Mainul Haque, Mitsuyoshi Takedam Yasushi Sato and Yukio Ando. 2001. 'Abundance and population of *Acaphylla theavagrans* Kadono (Acari: Eriophydae) in some varieties of tea plants and a report on its predator *Amblyseius womersleyi* Schicha', *ICOS*, 1 (11): 90–93.

56 Ahmed H. Badran, Victor M. Guzov, Qing Huai, Melissa M. Kemp, Prashanth Vishwanath, Wendy Kain, Autumn M. Nance, Artem Evdokimov, Farhad Moshiri, Keith H. Turner, Ping Wang, Thomas Malvar and David R. Liu. 2016. 'Continuous evolution of *Bacillus thuringiensis* toxins overcomes insect resistance', *Nature*, 533 (7601): 58–63.

spiders that prey on lepidopterous insects as well as the tea leafhopper. There are over 290 such predatory spiders known, but the species enlisted so far include *Agryodes banadea*, *Coleosoma octomaculatum*, *Erigonidium graminicolum*, *Agelena labyrinthica*, *Oxyopes sertatus* and *Clubiona reichlini*.

At least 81 species of entomophagous viruses have been isolated in tea tree pests and identified, and a number of these have already been used in biological warfare to combat pests in order to produce organic tea, such as four species of nucleopolyhedrosis virus which each specifically infect the moth species *Euproctis pseudoconspersa, Cnidocampa flavescens* and *Buzura suppressaria* and the tea looper *Ectorpis obliqua*. The tea looper has also been combatted by using viruses and enlisting the services of the parasitic wasps of the genus *Apanteles*.

The mulberry scale *Pseudaulacapsis pentagona*, sometimes also called the white peach scale, is a voracious insect, but to combat this polyphagous pest not just the insecticides themselves, but the precise timing of their application, turns out to be crucial in order to hamper proliferation of the mulberry scale at the exact moments of maximum vulnerability during their temperature-sensitive and precipitation-dependent generational cycles.[57] The yellow tea thrips *Scirtothrips dorsalis* is an invasive species attacking tea buds. Both the mulberry scale and the yellow tea thrips often pose a problem in tea gardens once insecticides have successfully eliminated all or most of the tortrix moths. The mulberry scale and the yellow tea thrips are therefore sometimes described as 'secondary pests'.

Likewise, the weevil *Myllocerus aurolineatus* can be effectively combatted by spreading spores of the entomophagous hyphal fungus *Beauveria bassiana*, which feeds on the entrails of the living weevil.[58] Sometimes simple anatomical features of a cultivar confer resistance, as in the case of tea cultivars with higher hair density, longer hairs and lower stoma density preventing feeding by the tea rust mite *Acaphylla theavagrans*.[59]

Tea Tree Diseases and Some Therapies

A host of diseases can afflict the tea plant. Tea leaf diseases include tea anthracnose *Colletotrichum theaesinensis*,[60] tea blister blight *Exobasidium vexans*, tea white scab *Phyllosticta theaefolia*, tea bud blight *Phyllosticta gemmiphliae*, tea brown blight *Guignardia camelliae*, tea grey blight *Pestalotiopsis theae*, tea exobasidium blight *Exobasidium reticulatum*, tea brown leaf spot *Cercospora theae* and tea sooty mould *Neocapnodium theae*. Diseases specifically affecting the stem of the tea plant include tea red rust *Cephaleuros parasiticus*, tea shoot blight *Cenangium* sp., tea horse hair blight *Marasmius equicrinus*, tea lichens of the genus *Alectoria*, tea mosses of the genera *Frullania* and *Barbella*, tea cuscuta *Cuscuta japonica* and tea mistletoe *Viscum albrum*.[61]

The two most familiar tea root diseases are tea seedling blight *Pellicularia rolfsii* and tea seedling crown gall *Agrobacterium tumefaciens*, whereas the flowers of the tea tree can become infected with the blight *Botrytis cinerea*. Another tea disease is round brown spot *Pseudocercospora ocellata*, which causes green and brown spots and reduces yield.[62] Tea planters also have to worry

57 Mitsuyoshi Takeda. 2001. 'Predicting the optimum timing of insecticide application to control the first generation larvae of *Pseudaulacapsis pentagona* using the day-degree accumulation', ICOS, 1 (II): 221–224.

58 Guangyuan Wu, Mingsen Zeng and Qingsen Wang. 2001. 'Studies on *Beauveria bassiana* strain 871 and its use against *Myllocerus aurolineatus*', ICOS, 1 (II): 213–216.

59 Takashi Mizuta. 2001. 'The fertility difference of the tea rust mite *Acaphylla theavagrans* on tea cultivars', ICOS, 1 (II): 233–236.

60 Some sources write *Gloeosporium theaesinensis* or *Discula theaesinensis*.

61 Tzong-Mao Chen and Shin-Fun Chen. 1982 'Diseases of tea and their control in the People's Republic of China', *Plant Disease*, 66 (10): 961–965.

62 Takuya Nishijima. 2007. 'The occurrence of tea round brown spot and its influence on the yield of the first tea crop in Shizuoka prefecture, Japan', ICOS, 3, PR-P-408.

about red root disease *Ganoderma pseudoferreum* and wood termites *Postelectrotermes miliatries*.

Fungal blight caused by *Exobasidium vexans* afflicts the young succulent leaves and tender stems and first appears as gradually expanding circular blotches on the leaf which are more translucent than the rest of the leaf and discoloured pale yellow or lime green, before turning brown and withering. Bushes which have recently been pruned are more susceptible to the disease. Some tea cultivars are more resistant than others, but no varieties of tea appear to be fully immune to this airborne disease when it happens to strike. Contact fungicides containing copper are used by many tea planters as well as the systemic fungicides bitertanol, propiconazole, tridemorph, hexaconazole or tebuconazole. One of the disadvantages of fungicide use is, of course, the possibility that fungicide-resistant strains of the blight will evolve.

Studies conducted by the Tea Research Institute of Sri Lanka in fifteen different tea cultivars showed that, when the trees were infected with the blister blight leaf disease caused by the fungus *Exobasidium vexans*, the levels of caffeine, theobromine, epicatechin gallate (ECG) and epigallocatechin gallate (EGCG) peaked right after infection, but then went down dramatically as the infection progressed. By contrast, the levels of epicatechin (EC) and epigallocatechin (EGC) began to decline at once at the onset of infection, and much higher natural levels of epicatechin (EC) and epigallocatechin (EGC) were measured in the leaf and stem tissues of the more resistant tea cultivars.[63]

The role of tea polyphenols against phytopathogenic bacteria has been under investigation many years. DNA marker selection and the acceleration of generations have already been employed experimentally in attempts to improve characteristics of cultivated tea plants, although purists may object to such forms of genetic modification that are more directly intrusive than the more traditional form of tampering which for centuries has taken the form of selective breeding by cultivators.

Both the blister blight leaf disease *Exobasidium vexans* and the tea brown blight *Guignardia camelliae* are combatted by microbial fungicides in organic tea farming in China. After the Second World War, blister blight threatened to do to the dense tea monoculture of central Ceylon what *Hemileia vastatrix* had previously done to Ceylonese coffee in the 1870s. Tea is particularly susceptible to this pathogen when subjected to too many pluckings, but blister blight is combatted with fungicides and copper sprays.[64] Outside of the picking season, sometimes mineral-based pesticides such as the Bordeaux mixture and lime sulphur were used as fungicides and pesticides by organic tea planters.

Now that Chinese tea specialists have sequenced the whole tea genome, they shall no doubt continue to analyse the tea germ plasm for cytological, biochemical and morphological traits to identify molecular markers useful to the tea industry.[65] The ultimate aim is to conduct marker-assisted selection, controlled hybridisation, exploit transgenic technology and develop new cultivars by selecting for early sprouting, highly resistant and high yielding tea clones.[66] In India too, molecular markers have also been the target of tea crop improvements for some time.[67] In China, India and

63 Nimal Punyasiri, Sarath Abeysinghe and Vijay Kumar. 2001. 'Chemical and biochemical basis of the resistance and susceptibility of Sri Lankan tea cultivars to blister blight leaf disease (*Exobasidium vexans*)', ICOS, 1 (II): 94–97.

64 Forrest (1985: 13).

65 Sun Ni, Ming-Zhe Yao, Liang Chen, Li-Ping Zhao and Xin-Chao Wang. 2012. 'Germ plasm and breeding research of the tea plant based on DNA marker approaches', pp. 361–376 in Chen, Apostolides and Chen (op.cit.).

66 Ming-Zhe Yao and Liang Chen. 2012. 'Tea germ plasm and breeding in China', pp. 13–68 in Chen, Apostolides and Chen (op.cit.).

67 Tapan K. Mandal, Amita Bhattacharya, Malathi Laxmikumaran and Paramir Singh Ahuja. 2004. 'Recent advances of tea (*Camellia sinensis*) biotechnology', *Plant Cell, Tissue and Organ Culture*, 76: 195–254; Rajan Kumar Mishra and Swati Sen-Mandi. 2004. 'Molecular profiling and development of DNA marker associated with drought tolerance in tea clones growing in Dar-

FIGURE 12.8
Healthy tea flourishes in an organic tea garden in Japan

elsewhere, tea genome studies have investigated genetic mechanisms which could be exploited to enhance decreased pathogen susceptibility after being subjected to tea picking,[68] resistance to pests,[69] drought tolerance,[70] the diversity of genes controlling catechin synthesis[71] or the polyphenol content in the tea.[72]

jeeling', *Current Science*, 87 (1): 60–66; Suresh Chandra Das, Sudripta Das and Mridul Hazarika. 2012. 'Breeding of the tea plant (*Camellia sinensis*) in India', pp. 69–124 in Chen, Apostolides and Chen (op.cit.).

68 Katsuyuki Yoshida and Tomō Homma. 2001. 'Isolation of wound/pathogen-inducible cDNA from tea by mRNA differential display', *ICOS*, 1 (II): 62–65.

69 Zong-Mao Chen, Xiao-Ling Sun and Wen-Xia Dong. 2012. 'Genetics and chemistry of the resistance of the tea plant to pests', pp. 343–360 in Chen, Apostolides and Chen (op.cit.).

70 Rajan K. Mishra and Swati Sen-Mandi. 2001. 'Genome analysis and isozyme studies for developing molecular markers associated with drought tolerance in tea plants', *ICOS*, 1 (II): 66–69.

71 Jong-In Park, Bong-Soo Kim and Il Sup-Nou. 2001. 'Diversity of catechin synthesis genes in green tea cultivars', *ICOS*, 1 (II): 129–131.

72 T. Tounekti, E. Joubert, I. Hernández and S. Munné-Bosch. 2012. 'Improving the polyphenol content of tea', *Critical Reviews in Plant Sciences*, 32 (3): 192–215.

Research has been conducted to see whether the disease resistance of tea can be enhanced by the introduction of genes through the mediation of the bacterium *Agrobacterium tumefaciens* into the embryogenic tea callus.[73] Genetic engineering aims to get the tea plant to express proteins that are toxic to insects, thereby offering a safe alternative to pesticides. Of course, caffeine itself is already produced by the tea plant as a deterrent to being ravaged by insects. Investigations have also been conducted to see whether resistance to insect predation can be enhanced by introducing the genes from *Bacillus thuringiensis* that are responsible for the synthesis of proteinaceous crystals with insecticidal properties, once again through the mediation of the bacterium *Agrobacterium tumefaciens* as a vector.[74]

73 Michiyo Kato, Misako Kato, Masao Watanabe and Akio Kato. 2001. '*Agrobacterium tumefaciens* mediated transformation of embryogenic tea callus', *ICOS*, 1 (II): 125–128.

74 Shan Wu, Yurong Liang, Yingying Luo and Jianliang Lu. 2001 'The construction of a *Bacillus thuringiensis* gene expression vector and its transformation in tea plant (*Camellia sinensis* L.)', *ICOS*, 1 (II): 54–57.

Two fluorescent strains of *Pseudomonas* rhizobacteria were shown to produce siderophore and antibiotics that acted against brown rot fungus *Fomes lamoensis*,[75] whereas the rhizobacteria *Bacillus pumilus* and *Bacillus megaterium* promote plant growth and inhibit tea root rot pathogens.[76] In the hope of mitigating the deleterious effects of pesticides, some pesticides of entirely vegetable origin are employed in organic tea production, such as rotenone, matrine and tuberostemonine.

Consumer Protection, Labyrinths of Red Tape and Global Dangers

In 1924, George Mitchell, the tea examiner of the United States Department of Agriculture, wrote:

> Previous to 1883, the United States was the 'dumping ground' for much of the adulterated and spurious tea from the tea-producing countries of the world.

On the 2nd of March 1883, legislation was enacted to safeguard tea quality and purity, but the administration of this law proved to be 'unsatisfactory', and on the 2nd of March 1897 a new law was enacted, entitled the Act to Prevent the Importation of Impure and Unwholesome Tea. The Act was administered by the Treasury Department and in 1920 transferred to the Department of Agriculture. This law too allowed tea to be imported that was 'unfit for consumption', but at least from 1912 these measures managed largely to keep out tea that had been artificially dyed or chemically 'faced'.[77] Today, four pesticides with allowed residue tolerances in the United States include dicofol, glyphosate, propargite and tetradifon, and the Food and Drug Administration is responsible for enforcing the residual pesticide limits in tea set by the Environmental Protection Agency.[78]

Before 1950, the pesticides pyrethrin, rotenone, copper sulphate, Bordeaux mixture and lime sulphur were used in China. In the 1950s, both benzene hexachloride (BHC) and dichloro-diphenyl-trichloroethane (DDT) were introduced, leading to serious residue problems in tea until both pesticides were banned in 1974. In the 1960s, the pesticides trichlorfon, dichlorvos, parathion and dimethoate were introduced. In 1963, the Food and Agriculture Organisation of the United Nations together with the World Health Organisation introduced the concept of safe levels of pesticide residues in food in their first version of the *Codex Alimentarius*.

In the 1970s, the Chinese pesticide arsenal consisted of malathion, dicofol, phoxim, phosmet, dibronl, fenitrothion, thiophanate methyl, dibromochloropropane, *Bacillus thuringiensis*, cartap, chlordimeform and dimethoate. In the 1980s, the preferred pesticides in China were quinalphos, benomyl, permethrin, deltamethrin, fenvalerate, cypermethrin, bifenthrin, pyridaben and buprofezin. Since 1991, the preferred arsenal of pesticides has comprised bifenthrin, cypermethrin, deltamethrin, endosulphan, propargite and rotenone.[79]

In China, the first batch of organic tea was produced in early 1990 and was exported to Holland. Since 1997, organic tea has been grown in Wùyuán 婺源 county in Jiāngxī 江西 province, where a group of tea planters locally spearheaded the movement for natural organic tea cultivation in China.[80] In 2003, organic tea was produced on

75 Dileep Kumar B.S., Swarnalee Dutta and Ashim Kumar Mishra. 2004. 'Biocontrol of brown rot disease and improved crop production of tea by plant growth promoting rhizobacteria', *ICOS*, 2: 98–101.

76 Usha Chakraborty, Merab Basnet, Lhanjey Bhutia and Bishwanath Chakraborty. 2004. 'Plant growth promoting activity of *Bacillus pumilus* and *Bacillus megaterium* from the tea rhizosphere', *ICOS*, 2: 102–105.

77 George F. Mitchell. 1924. 'Tea law of the United States', pp. 158–161 in Rutgers (op.cit.).

78 Manik Jayakumar. 2004. 'Pesticide residue issues in tea: The U.S. perspective', *ICOS*, 2: 77–80.

79 Chen Zongmao, Liu Guanming, Luo Fengjian and Tang Fubing. 2004. 'Pesticide residue in China tea', *ICOS*, 2: 66–69.

80 Chen Yingqun. 2013. 'Organic is the watchword for tea growers: Western health sensitivities help transform

FIGURE 12.9
Arshad Khan ارشد خان, the Paṭhān *cāyvālā* چای والا ‘tea vendor’ in Islamabad, whose picture suddenly ‘went viral’ on Pakistani, India and British social media, shared thousands of times, after photographer Jiah Ali uploaded the photograph to her instagram account with the caption ‘Hot-tea’ on the 16th of October 2016.

over 12,000 hectares of land at seventeen localities in China, and the output of organic tea came to about 8,000 tonnes, which at the time represented 1.1% of the total national output. From 2002, the Chinese Ministry of Agriculture decided to promote organic agriculture, and in September 2003 the ministry issued the criteria for the production of organic tea in Decree No. 399 of the State Council of the People’s Republic of China. About thirty bodies were approved by the government to certify organic food, but the validity of their certifications was not recognised abroad.[81]

Subsequently, four Chinese authorities in China certified tea as organic on the basis of both soil and tea samples, and three of these entities were governmental agencies and one a private company: China Organic Food Certification Centre (COFCC) under the Ministry of Agriculture, the Organic Tea Research and Development Centre (OTRDC) of the Chinese Academy of Agricultural Sciences, the Organic Food Development Centre (OFDC) under the State Environmental Protection Agency in Nanking and Wantai Quality Certification Company.[82] In addition, four joint ventures or foreign owned ventures were accredited to the Chinese government: the German

industry in remote county into China’s successful environmentally friendly tea growing area’, *China Daily*, 6–12 December 2013, pp. 16–17.

81 Liuxin, Fu Shangwen, Zhangyu, Su Aimin and Wu Zhichang. 2004. ‘The development of organic tea in Chinese mainland’, *ICOS*, 2: 732–735.

82 Shao-Jun Luo and Yi Lu. 2001. ‘The development of the industry calls for ecological tea gardens’, *ICOS*, 1 (II): 178–180.

BCS Öko-Garantie GmbH at Chángshā in Húnán province, the Swiss Institute of Marketecology (IMO) at Nanking in Jiāngsū, the German Certification of Environmental Standards (CERES) GmbH at Shànghǎi, and the French based ECOCERT.[83]

From 1995, the Food and Agriculture Organisation of the United Nations together with the World Health Organisation also began to issue directives regarding food additives.[84] In July 1999, the European Union issued stricter standards for maximum pesticide residue limits which directly impacted pesticide use or at least pesticide use reporting in China, and since then the use of pesticides in tea has purportedly been coming down. What constitutes an 'acceptable' level of pesticides in your tea is a big question, and presumably also depends on which particular chemicals have been used. The Chinese Ministry of Agriculture issued a 'no-pollution tea production' guideline.

Four European Council directives regulate maximum pesticide allowable residues in tea and all other foodstuffs of plant or animal origin, viz. № 76/895/EEC, № 86/362/ECC, № 86/363/EEC, № 90/642/EEC and their amendments. Approximately 150 pesticide residues were regulated.[85] These regulations were augmented by the European Commission regulation № 915/2010 of the 12th of October 2010, which led to a coordinated multi-annual control programme of the European Union for 2011, 2012 and 2013 to ensure compliance with maximum levels of pesticide residues and to assess the consumer exposure to such residues in and on food of plant and animal origin. At the international level, there are working groups on geographical indications and maximum residue limits in tea.[86]

In Germany in 2004, a gas chromatographic based multi-residue method was the most commonly employed approach for monitoring pesticide residues. Most residues are detected by means of gas chromatography, but the analyses were augmented by mass spectrometric detection in order to detect those agrochemicals used in tea gardens which are not amenable to common gas chromatographic techniques. More than 220 pesticides can be safely determined in tea within a short time using this combined screening approach.[87] After extraction with acetonitrile, phase separation is induced by means of a buffer salt. Liquid chromatography is implemented in tandem with mass spectrometric detection by Eurofins to test for maximum residue levels in Europe.[88] More recently, pesticides are also ionised in the detection process with electrospray,[89] and the major constituents of tea can also be measured by near-infrared spectroscopy.[90]

In 2011, the twelfth Chinese Five-Year Plan aimed to cut pesticide use in Chinese agriculture and the Chinese tea industry by 20%.[91] In

83 Chen Zongmao. 2001. 'Organic tea production in China', *ICOS*, 1 (IV): 41–44; Stephen Scoones and Laure Elsaesser. 2008. *Organic Agriculture in China: Current Situation and Challenges*. European Commission: EU-China Trade Project.

84 T.C. Chaudhuri. 2004. 'Pesticide residues in tea: A global perspective', *ICOS*, 2: 70–73.

85 Manfred Linkerhägner. 2004. 'European approach to consort maximum residue levels for pesticides on foodstuffs: Impact and demands of tea trading business', *ICOS*, 2: 77–80.

86 Food and Agriculture Organisation of the United Nations. May 2010. 'Report of the Nineteenth Session of the Intergovernmental Group on Tea, New Delhi, India, 12–14 May 2010', *Committee on Commodity Problems, Sixty-eighth Session*, Rome, 14–16 June 2010.

87 Manfred Linkerhägner. 2004. 'Routine pesticide residue analysis on tea: The state-of-the-art method and recent advances', *ICOS*, 2: 85.

88 Thomas Anspach and Manfred Linkerhägner. 2004. 'Determination of agrochemical residues in tea by using an LC-MS/MS-based multi-residue method', *ICOS*, 2: 335.

89 Thomas Anspach and Manfred Linkerhägner. 2007. 'Modern approaches for the determination of multiple pesticide residues in tea using LC-MS/MS', *ICOS*, 3, PR-P-401.

90 Shih-lun Liu, Yung-Sheng Tsai and Andi Shau-mei Ou. 2004. 'Rapid analysis on major constituents of tea by near-infrared spectroscopy', *ICOS*, 2: 229–230.

91 Liáng Bǎozhōng 梁寶忠. 2011. 全面推進專業化統防統治力爭"十二五"末化學農藥使用量減少20%, website of the Ministry of Agriculture of the People's

FIGURE 12.10
In an organic tea garden in Japan, where new biological pest control methods are employed, black cheesecloth stands at the ready in order to provide the plants with shading several weeks before the harvest in order to produce tea from which *matcha* 抹茶, *gyokuro* 玉露 or *kabusecha* 冠茶 can be manufactured.

2012, Greenpeace purchased eighteen commercially available tea samples of green, oolong and jasmine tea from China's nine largest tea companies and had these samples chemically analysed by an accredited third party laboratory. Each tea sample was found to contain the residue of at least three different pesticides. Twelve of the eighteen samples showed traces of the banned pesticides methomyl, endosulphan and fenvalerate. Fourteen out of the eighteen samples tested were found to contain carbendazim, benomyl, myclobutanil, flusilazole or other pesticides that, according to the classification of the European Union, 'may impair fertility, cause harm to an unborn child or cause heritable genetic damage'.[92] Greenpeace naturally insists on a drastic reduction of pesticide use and noted that compliance with existing laws would already have prevented the use of banned pesticides. Effective traceability and monitoring of the supply chain will need to be implemented to ensure compliance.

Hunter, an American tea trader operating in China, states rather categorically that Fairtrade certifications in the Chinese tea industry are 'bogus'.[93] At the same time, Zhang and Hunter have provided an account of the absurd bureaucracy and inane paperwork of getting tea genuinely certified as a fair trade commodity.[94] Hunter also recounts that tea samples sent to Eurofins laboratories in Belgium for organic certification are carefully selected and may not represent all or even any of the tea from the producer being tested. The Institute for Marketecology (IMO) makes use of local Chinese auditors who are systematically bribed by tea producers to supplement their income, and the Institute for Marketecology certification is recognised in America as equivalent to a United States Department of Agriculture organic certification.

Hunter furthermore recounts that the dates and pesticide standard numbers on Organic certifications are routinely photoshopped by large tea producers in China, whereas small-holders practising genuine organic tea farming cannot afford the prohibitive cost of getting certified. Hunter holds a

Republic of China ⟨http://www.moa.gov.cn/zwllm/zwdt/201106/t20110615_2030663.htm⟩.

92 Greenpeace 綠色和平. 2012. *Pesticides: Hidden Ingredients in Chinese Tea*. Amsterdam: Greenpeace International (20 page report).

93 Hunter (2013).

94 Zhang and Hunter (2015: 60–67).

somewhat higher opinion of the Rainbow Alliance certification, although the prohibitive price for small-holders still puts organic certification out of reach for them. He considers European Union organic certification to require the strictest standards, but cautions that even in those instances when teas are deservedly labelled organic, such a certification is no guarantee that the cultivators are practising sustainable and environmentally compatible tea farming. In terms of pesticide use, Hunter describes Ānxī county in Fukien as 'one of the most highly sprayed areas' in all of China.

In Japan, pesticides are sprayed up to ten times during the long tea growing season, and the amount and timing of spraying are strictly regulated by the Food Sanitation Law and the Agricultural Chemical Regulation Law, which set maximum residue levels for 81 pesticides and chemicals in tea. New biological pest control methods are also being employed. Cultivars resistant to the mulberry scale and Kanzawa spider mite are employed. A synthetic female pheromone of the tea tortrix moth is sprayed to disrupt mating, but the cost is prohibitive and the control effect is still limited. Granulosis viruses which are pathogenic in the tea tortrix moth are also released. Blowers with moist wind have also been used to mechanically capture insects.

The management of grey blight *Pestalotiopsis longiseta* in Shizuoka prefecture has since 2000 relied on fungicides that include quinone in addition to inhibitors such as azoxystrobin. Strobilurin-resistant isolates were already detected in tea fields from 2008, and benzimidazole-resistant isolates were detected soon afterwards.[95] In Japan since 2004, the residue analyses are conducted for 100 different pesticides on the basis of hot water infusions and for an additional 27 pesticides on the basis of an infusion using an organic solvent, such as acetone, in accordance with the maximum residue limits set by the Food Sanitation Law and the Agricultural Chemical Regulation.[96] Lesser tea tortrices *Adoxophyes honmai* began to show resistance to flubendiamide and chlorantraniliprole in 2007 and to new insecticides of the diamide group in 2011.[97] The following dimethylation-inhibiting fungicides are used in Japan to treat tea plantations: tridimefon (Bayleton), myclobutanil (Rally), imibenconazole (Manage), difenoconazole (Score), tetraconazole (Salvatore), fenbuconazole (Indar), triflumizole (Trifmine) and pyrifenox (Podigrol).[98]

An entirely new danger, which affects not just tea, is radioactivity. In the wake of the Fukushima Dai-ichi nuclear power plant accident following the earthquake of the 11th of March 2011, the radioactive caesium isotopes (^{134}Cs and ^{137}Cs) contaminated tea plants in eastern Japan and were detected in new tea shoots.[99] Not just radioactive caesium can poison green tea. Wholesome green tea was rendered lethal on the 1st of November 2006 by

95 Togawa Masayuki, Nishizima Takuya and Katayama Haruki. 2010. 'Occurrence of strobilurin resistance of *Pestalotiopsis longiseta*, the causal fungus of tea grey blight, in Shizuoka prefecture', *ICOS*, 4, PR-P-52; Naoshi Omatsu, Tsuyoshi Tomihama and Toshiyuki Nonaka. 2010. 'Occurrence of resistant strains of *Pestalotiopsis longiseta* (pathogen causing grey blight disease in tea plants) to benzimidazoles and strobilurins fungicides', *ICOS*, 4, PR-P-58.

96 Yoshio Yusa. 2004. 'Current status of pesticide residue analysis methods concerning tea commodities in Japan', *ICOS*, 2: 82–84.

97 Toru Uchiyama and Akihito Ozawa. 2013. 'Resistance to diamides, a new class of insecticides, in the lesser tea tortrix *Adoxophyes honmai* Yasuda (Lepidoptera: Tortricidae), collected from tea field in Shizuoka prefecture, Japan', *ICOS*, 5, PR-P-65.

98 Hohenegger (2006) mentions the pesticides ethion, chlorpyrifos-methyl, flucythrinate, methidathion, but no information was available on the use of such pesticides in China or Japan, and out of these four only chlorpyrifos-methyl was detected as a residue in Chinese tea in the 2012 Greenpeace study, where this pesticide was detected in twelve out the eighteen tested Chinese tea samples.

99 Yuhei Hirono and Kunihiko Nonaka. 2013. 'Radiocaesium contamination of tea plants caused by the accident of Fukushima Dai-ichi nuclear power station', *ICOS*, 5, PR-P-55; Naho Komori, Mizuho Kamoshita, Yasuhisa Oya, Kenji Okuno, Takashi Ikka and Akio Morita. 2013. 'Caesium absorption from root and leaf surface of tea plants (*Camellia sinensis* L.)', *ICOS*, 5, PR-P-56.

a government seeking to hide its dirty secrets and wrongdoing. Alexander Litvinenko, a former agent of Russia's Federal Security Agency, was poisoned at London's Millennium Hotel by the highly radioactive, rare and expensive polonium (^{210}Po), which had been added to a pot of green tea. According to reports in the British media at the time, the poisoning was perpetrated by agents employed in various branches of the Russian secret services. Litvinenko died three weeks later from acute radiation poisoning due to the alpha particles emitted by the isotope, which had accumulated especially in his spleen and liver.[100] In cases of contamination with radioactive isotopes, whether inadvertent or intentional, all our efforts to practise organic farming are rendered pointless.

If we do not want our individual and collective avarice to turn our cup of tea into a poisoned chalice, we must take measures to ensure that we revise the way that we practise agriculture and tend our garden. More is at stake than just the quality of the tea that we drink. As a species, we wantonly pollute our planet with plastics and poisons. Today greed drives chemical companies to peddle and farmers to spray neonicotinoids, fungicides and numerous other biocides into our shared environment, threatening to exterminate thousands of species of bees.[101] Many bee species are key pollinators that fulfil an indispensable role in nature. Sheer greed combined with an utter lack of conscience motivates chemical companies to manufacture, traffic and dump glyphosate and numerous other biocides into the one and only biosphere in which we and all other species live.

More than half of India's tea production comes from Assam, where temperatures have reportedly gone up and dry periods are growing longer. Declines in crop yields as well as tea harvests are expected in China, where the average surface temperatures in the country were in 2014 prognosticated to increase by between 2°C and 5°C during this century according to the United Nations' intergovernmental panel on climate change.[102] Clearly far more is at stake than just tea.

The National Aeronautics and Space Administration at Greenbelt in Maryland announced that July 2016 was the world's hottest month since records began.[103] A month later, the World Meteorological Organisation, a United Nations agency based in Geneva, noted that August 2016 marked the sixteenth consecutive month of record heat for land and oceans in recorded history. In early 2017, the World Meteorological Organisation announced that the previous year, 2016, was the warmest year on record, showing a global average which lay a remarkable 1.1°C above the global tem-

100 In the year 2000, Litvinenko defected to the United Kingdom, where he sought political asylum. He authored the book *Lubyanka Criminal Gang* and co-authored the book *Blowing Up Russia: Terror from Within*, both originally published in 2002. Both books would have received less publicity if the interested parties had chosen simply to ignore Litvinenko and just to leave him in peace (Александр Литвиненко. 2002. *Лубянская преступная группировка: офицер ФСБ даёт показания*. New York: GRANI; Александр Литвиненко & Юрий Фельштинский. 2007. *ФСБ Взрывает Россию: Федеральная служба безопасности—организатор террористических актов, похищений и убийств* (Издание второе, исправленное и дополненное). Tallinn: Eesti Päevaleht, first published in 2002 by Liberty Publishing House in New York).

101 Scott H. McArt, Christine Urbanowicz, Shaun McCoshum, Rebecca E. Irwin and Lynn S. Adler. 2017. 'Landscape predictors of pathogen prevalence and range contractions in U.S. bumblebees', *Proceedings of the Royal Society B*, 284: 20172181.

102 Navin Singh Khadka. 2014. 'Why climate change is bad news for India tea producers', *BBC News, Science & Environment*, 27 March 2014; Sipho Kings. 2016. 'Climate change bad news for tea production', *Mail & Guardian*, 29 April 2016.

103 Charles Ichoku. 19 August 2016. *July 2016 was the hottest month on record*. National Aeronautics and Space Administration: Goddard Space Flight Centre, Greenbelt, Maryland ⟨http://visibleearth.nasa.gov/view.php?id=88607⟩; Oliver Milman. 2016. 'NASA: Earth is warming at a pace "unprecedented in 1,000 years": Records of temperature that go back far further than 1800s suggest warming of recent decades is out of step with any period over the past millennium', *The Guardian*, 30 August 2016.

perature for the pre-industrial period, thus exceeding the previous record year of 2015 by 0.06°C.[104]

Looking forward, climate scientist have predicted, as this book went to press, that the year 2017 will turn out not to be as hot as 2016, during which global temperatures were amplified by the *el Niño* effect.[105] However, this seemingly reassuring tiding offers us little consolation, since global temperatures in the year 2017 are still bound to be higher than in most previous years, and sixteen of the seventeen warmest years on record since measurements began in 1880 have occurred since 2001, and carbon dioxide levels in the atmosphere are at their highest in 650,000 years.[106] One model predicts that at current rates of warming, unabated fossil fuel emissions could by the year 2250 result in our world becoming warmer than the earth has ever been at any time in the past 420 million years.[107] Arctic ice has in our lifetime been vanishing at a rate of 13.2 % per decade, whereas land ice is melting at a rate of 286 gigatonnes per year. As ice sheets melt away, satellite data confirm that sea levels have been rising,[108] with the current annual rate of rise in global sea rise level at 3.4 mm.[109]

For better or for worse, language has enabled our species to assume custodianship of the planet. The dawn of agriculture some ten millennia ago was also the beginning of deforestation.[110] Today, stone monuments of the Near East, the Iranian plateau and the Indus basin have withstood the passage of time, but the ancient palaces of Darius and many of the cities of antiquity were built largely of wood.[111] The stark aridity of the vast expanse of the Iranian plateau, as viewed from the air today, makes a shrill contrast with the palynological record of lush sylvan vegetation that once covered these hills, mountains and valleys. The harsh barren topography represents an enduring legacy of the relentless despoliation of the planet by our species and one of many conspicuous scars inflicted on the biosphere that historians routinely ignore.

The rise and spread of civilisation not only denuded the forests of Mesopotamia, the Zagros mountains and the Iranian plateau, but also exter-

104 World Meteorological Organisation. 21 July 2016. *Press Release Number 8: Global climate breaks new records January to June 2016*. Geneva: United Nations ⟨http://public.wmo.int/en/media/press-release/global-climate-breaks-new-records-january-june-2016⟩; Publications Board of the World Meteorological Organisation. 2017. *WMO Statement on the State of the Global Climate in 2016* (WMO № 1189). Geneva: World Meteorological Organisation.

105 Dana Nuccitelli. 2017. '2017 is so far the second-hottest year on record thanks to global warming', *The Guardian*, 31 July 2017.

106 Recent research with alpine ice cores has established, however, that the year 1850, often used as a calibration point in climate models, may not represent the optimal reference year (Michael Sigl, Nerilie J. Abram, Jacopo Gabrieli, Theo M. Jenk, Dimitri Osmont and Margit Schwikowski. 2018. '19th century glacier retreat in the Alps preceded the emergence of industrial black carbon deposition on high-alpine glaciers', *The Cryosphere*, 12: 3311–3331).

107 Gavin L. Foster, Dana L. Royer and Daniel J. Lunt. 2017. 'Future climate forcing potentially without precedent in the last 420 million years', *Nature Communications*, 8: 14845.

108 Jeff Tollefson. 2017. 'Satellite error hid rising seas: Revised tallies confirm that the rate of sea-level increase is accelerating as Earth warms and ice sheets thaw', *Nature*, 547 (7663): 265–266 (Unbeknownst to some faraway friends, I relinquished my chair at Leiden University and acceded to a chair at the University of Bern in 2010. A modicum of levity on my part during an exchange with an old friend in a Kathmandu coffee shop in February 2017 led to me being depicted as Holland's first climate refugee in a serious piece of journalism on the grave topic of habitat destruction and anthropogenic climate change. At one level at least, this portrayal as a climate refugee was not entirely devoid of truth (Abhi Subedi. 2017. 'Dust in our eyes: Politicians of all hues have recklessly destroyed Nepal's nature and ecology', *The Kathmandu Post*, 5 March 2017)).

109 Data provided by the Goddard Institute for Space Studies of the National Aeronautics and Space Administration ⟨https://climate.nasa.gov⟩.

110 Michael Williams. 2006. *Deforesting the Earth: From Prehistory to Global Crisis*. Chicago: University of Chicago Press.

111 Peter Roger Stuart Moorey. 1994. *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence*. Oxford: Oxford University Press.

minated the rich fauna which once roamed this enormous expanse of territory. During Roman times, lions and other game in Europe were hunted to extinction. At the dawn of European colonial expansion, the Venetians clear-cut the ancient woodlands that once thickly blanketed Dalmatia and felled the forests of Calabria, Sicily, the Apennines and Gargano, whilst the Spanish depleted the forests of southern Spain.[112] Natural habitat destruction and the extermination of new species underwent a sharp crescendo during European colonial expansion, and the rampant process of habitat destruction has accelerated ever since.

The Club of Rome was founded at a meeting convened by the Italian industrialist Aurelio Peccei and the Scottish chemist Alexander King, held at the Villa Farnesina of the Accademia dei Lincei in Rome on the 7th and 8th of April 1968.[113] Two years later, at the invitation of the Swiss government, the first conference of the Club of Rome was held in June 1970 in Bern, where the proposal *The Predicament of Mankind* was presented.[114] This document inspired the publication in 1972 of the highly influential report entitled *The Limits to Growth*.[115] This book on a very real and ever expanding planetary danger inspired the 1973 Hollywood production *Soylent Green*, culminating in a macabre discovery on the part of the protagonist at the end of this apocalyptic film.

Detractors have at times claimed that the predictions of the Club of Rome have not come true, but such critics have characteristically either denied or blithely overlooked the realities that have unfolded on the planet since then. The enormity of what has perished from the face of the earth forever is more easily lost on people who lead urban or suburban lives, spent encapsulated within man-made environments. Most people today have never had the experience of spending days observing the diurnal rhythms unfold within genuine virgin woodlands, nor observed first-hand the species diversity in an untouched lush tropical rain forest, nor have many had the privilege of witnessing the biological splendour of intact natural habitats and feeling the awe evoked by the beauty of pristine natural environments.

We humans have been driving other species into extinction at an ever accelerating rate, and the current pace of natural habitat destruction appears to be relentless. Since the first conference of the Club of Rome in 1968, mammalian species that have gone extinct include the Formosan clouded leopard *Neofelis nebulosa brachyura*, the Yangtze river dolphin *Lipotes vexillifer*, the Caspian tiger *Panthera tigris virgata*, the Javan tiger *Panthera tigris sondaica*, the Japanese sea lion *Zalophus japonicus*, the Australian central rock rat *Zyzomys pedunculatus*, the Saudi gazelle *Gazella saudiya*, the Zanzibar leopard *Panthera pardus adersi*, the Lord Howe long-eared bat *Nyctophilus howensis*, the scimitar-horned oryx *Oryx dammah* of the western Sahel, the Christmas Island pipistrelle *Pipistrellus murrayi*, the Dinagat bushy-tailed cloud rat *Crateromys australis* of the Philippines, the Southeast Asian grey forest ox *Bos sauveli*, the Bramble Cay mosaic-tailed rat *Melomys rubicola* in the Torres Strait, the Aru flying fox *Pteropus aruensis* of the Aru Islands, the West African black rhinoceros *Diceros bicornis longipes*, Wimmer's shrew *Crocidura wimmeri* in the Ivory Coast, the Christmas Island shrew *Crocidura trichura*, the San Quintin kangaroo rat *Dipodomys gravipes* in Mexico, the Telefomin cuscus possum *Phalanger matanim* of New Guinea, Bouvier's red colobus

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112 Sytze Bottema, Gertie Entjes-Nieborg and Willem van Zeist, eds. 1990. *Man's Role in the Shaping of the Eastern Mediterranean Landscape*. Rotterdam: August Aimé Balkema.

113 Eleonora Barbieri Massini. 2007. *The Legacy of Aurelio Peccei and the Continuing Relevance of his Anticipatory Vision*. Vienna: Protext Verlag and the European Support Centre of the Club of Rome.

114 Hasan Özbekhan, Erich Jantsch and Alexander 'Aleco' N. Christakis. 1970. *The Predicament of Mankind: Quest for Structured Responses to Growing World-wide Complexities and Uncertainties—A Proposal*. Bern: The Club of Rome.

115 Donella H. Meadows, Dennis L. Meadows, Jørgen Randers and William W. Behrens III. 1972. *The Limits to Growth: a Report for the Club of Rome's project on the Predicament of Mankind*. New York: Universe Books.

FIGURE 12.11 Adults of the moa species *Dinornis giganteus*, depicted in the centre, exceeded three and a half metres in height, whereas even smaller species, such as *Dinornis elephantopus*, shown on the right, presented huge and defenceless walking meat larders to the first human settlers of New Zealand (Henry Neville Hutchinson. 1892. *Extinct Monsters: A Popular Account of Some of the Larger Forms of Ancient Animal Life*. London: Chapman & Hall, plate between pp. 232 and 233, whereby the title of the book begs the question as to who are the true monsters, the many species that were driven into extinction or our own species, who exterminated them).

Piliocolobus bouvieri in the jungles on the right bank of the Congo, the montane monkey-faced bat *Pteralopex pulchra* of the Solomon Islands, the Angel Island mouse *Peromyscus guardia* and the Pyrenean ibex *Capra pyrenaica pyrenaica*. In 2010, the last wild Javan rhinoceros *Rhinoceros sondaicus* in Vietnam was slaughtered by poachers, and precious few of its conspecifics are left today in other parts of Southeast Asia, where natural habitat destruction continues at a maniacal pace.

In the same period, numerous bird species have likewise been exterminated. In the Old World, the Madagascar red-necked grebe *Tachybaptus rufolavatus* of Lake Alaotra, the Sulu bleeding-heart *Gallicolumba menagei* of the Philippines, the white-eyed river martin *Pseudochelidon sirintarae* of Thailand, the Tana River cisticola *Cisticola restrictus* in Kenya and Somalia, the Italian grey partridge *Perdix perdix italica* and the Ticao hornbill *Penelopides panini ticaensis* in the Philippines are now all lost forever. In the Americas in the same recent period, many bird species have vanished: the Colombian grebe *Podiceps andinus*, the Barbados scaly-breasted thrasher *Allenia fusca atlantica*, the Atitlán grebe *Podilymbus gigas* of Guatemala, the Cozumel thrasher *Toxostoma guttatum* on Cozumel Island off of the Yucatán coast, the Gonâve western chat-tanager *Calyptophilus tertius abbotti* in the West Indies, the Guadalupe storm petrel *Oceanodroma macrodactyla*, the Eskimo curlew *Numenius borealis* of the western North American tundra, the little blue macaw *Cyanopsitta spixii* of Brazil, the Channel Island song sparrow *Melospiza melodia graminea* in Los Angeles county, Bachman's warbler *Vermivora bachmanii* in

Cuba and the southeastern United States and the dusky seaside sparrow *Ammodramus maritimus nigrescens* in Florida.

Insular habitats are particularly vulnerable to humans. The Māori exterminated the nine endemic species of moa within a century and a half of first making landfall on New Zealand at the end of the 13th century. They hunted to extinction these giant flightless and defenceless birds, that were much larger than ostriches and were easily exploited as a living meat larder until the entire cupboard was bare. In the same period, the ancestors of the Rapa Nui settled on Easter Island, and in due course they deforested the island and wiped out all endemic species. It was in this ecologically devastated state that Jacob Roggeveen of Middelburg, sailing for the Dutch East India Company, found the island on Easter Sunday, the 5th of April 1722. Just a dozen years earlier, his own compatriots had driven the flightless dodo, *Raphus cucullatus*, extinct on Mauritius. Yet, we have not learnt our lesson.

Since the warnings issued by the Club of Rome, the North Island piopio *Turnagra tanagra* and the mātuhituhi or New Zealand bush wren *Xenicus longipes* have both vanished from New Zealand, and over a dozen endemic bird species have been driven to extinction on the Hawaiian Islands alone: the large kāma'o *Myadestes myadestinus* of Kaua'i, the oloma'o *Myadestes lanaiensis*, the O'ahu 'alauahio *Paroreomyza maculata*, the Kaua'i 'akialoa *Akialoa stejnegeri*, the Kaua'i 'ō'ō *Moho braccatus*, the kākāwahie *Paroreomyza flammea* of Moloka'i, the po'o-uli or black-faced honeycreeper *Melamprosops phaeosoma* of Maui, the once widespread Hawaiian honeycreeper or 'ō'ū *Psittirostra psittacea*, the Hawaiian crow or 'alalā *Corvus hawaiiensis*, the Maui nukupu'u *Hemignathus affinis*, the Kaua'i nukupu'u *Hemignathus hanapepe*, the Maui 'akepa *Loxops ochraceus* and the O'ahu 'akepa *Loxops wolstenholmei*.

In the same short span of time, numerous other insular species have vanished due to habit destruction or the introduction of alien blights and predators. The Norfolk boobook *Ninox novaeseelandiae undulata*, the white-chested white-eye *Zosterops albogularis* and the Norfolk thrush *Turdus poliocephalus poliocephalus* have all vanished from Norfolk Island. The New Caledonian rail *Gallirallus lafresnayanus* has gone extinct. The Aldabra brush warbler *Nesillas aldabrana* and the Amirante turtle dove *Nesoenas picturata aldabrana* have both died out on the Seychelles. The Aguiguan reed warbler *Acrocephalus nijoi*, the Guam flycatcher *Myiagra freycineti*, the Mariana mallard *Anas oustaleti*, the nightingale reed warbler *Acrocephalus luscinius*, the Guam rufous fantail *Rhipidura rufifrons uraniae*, the Guam kingfisher *Todiramphus cinnamominus cinnamominus* and the Pagan reed warbler *Acrocephalus yamashinae* have all vanished from the Marianas.

The Moorea reed warbler *Acrocephalus caffer longirostris* has vanished from Moorea in the Society Islands. The eastern Canary Islands chiffchaff *Phylloscopus canariensis exsul* has disappeared on the islands of Lanzarote and Fuerteventura, and the San Cristóbal vermilion flycatcher *Pyrocephalus rubinus dubius* has died out on the Galápagos. The Ua Pou monarch *Pomarea mira* and the Eiao monarch *Pomarea fluxa* have both gone extinct on the Marquesas. The thick-billed ground dove *Alopecoenas salamonis* has been driven to extinction on the Solomon Islands. The bar-winged rail *Nesoclopeus poecilopterus* of Fiji, the Pohnpei starling *Aplonis pelzelni* of Micronesia and the spotted green pigeon *Caloenas maculata* of the South Pacific are likewise all presumed to have gone extinct in this same recent period.

Many reptiles have also been driven to extinction since the warnings issued from Rome, including the Monito skink *Spondylurus monitae* in Puerto Rico, the Round Island burrowing boa *Bolyeria multocarinata* in Mauritius, Chapman's pygmy chamaeleon *Rhampholeon chapmanorum* in Mozambique and the Selmunett wall lizard *Podarcis filfolensis kieselbachi* in Malta. In the Galápagos, the last known colossal Pinta Island tortoise *Chelonoidis nigra abingdonii*, who went by the name of Lonesome George, died a lonely death on the 24th of June 2012.

During the same period, numerous amphibian species have been exterminated, including the peppered tree frog *Litoria piperata* of eastern Australia, the Morona-Santiago stub-foot toad *Atelopus halihelos* in southern Ecuador, the golden toad *Incilius periglenes* of Costa Rica, first described in 1966 and already extinct today, the scarlet harlequin toad *Atelopus sorianoi* of Venezuela, the blue-eyed aquatic tree frog *Plectrohyla cyanomma* of Mexico, the Australian southern gastric brooding frog *Rheobatrachus silus*, Holdridge's toad *Incilius holdridgei* in Costa Rica, the Mexican aquatic salamander *Pseudoeurycea aquatica*, the Ecuadorian frog *Atelopus petersi* and the Kihansi spray toad *Nectophrynoides asperginis* of Tanzania. The recently exterminated Mexican frog species *Thorius minydemus* used to live inside epiphytic bromeliads until the forests where it lived were logged to depletion. The White Spring Cave crayfish *Cambarus veitchorum* of Alabama has gone extinct, and the crustacean known as the Socorro sowbug *Thermosphaeroma thermophilum* also went extinct in New Mexico. Both the Sardinian mollusc *Sardohoratia sulcata* and the Malaysian mollusc *Plectostoma charasense* are likewise now gone forever.

Fish species that have been driven to extinction since the dire warnings issued by the Club of Rome include the Chinese paddlefish *Psephurus gladius*, the black-fin cisco *Coregonus nigripinnis* in the Great Lakes of North America, the Tecopa pupfish *Cyprinodon nevadensis calidae* in the Mojave desert, the Danube delta dwarf goby *Knipowitschia cameliae* and the Barada spring minnow *Pseudophoxinus syriacus* in Syria. Some species of fish went extinct soon after they were first detected, such as the endemic species *Pantanodon sp. nov. 'Manombo'* in Madagascar. Similarly, the Lake Pedder earthworm *Hypolimnus pedderensis* went extinct in Tanzania soon after it was first discovered in 1971.

Today, hundreds and sometimes thousands of new species are discovered each year, but countless species elude detection. The disappearance of species such as the new poeciliid fish in Madagascar and the earthworm species in Tanzania so soon after they were first recognised highlights the darker and more alarming fact that many species go extinct without ever being discovered at all because vast areas of unique natural habitats, along with all of the species and ecological niches which they contain, are destroyed unthinkingly in one fell swoop by brutal habitat destruction. Of course, every age has its doomsday prophets and millenarian soothsayers foretelling a *Ragnarök* or an apocalypse. However, in our time those predicting an environmental apocalypse happen not to be religious zealots, but scientists.

Since the first meeting of the Club of Rome, one fifth, or some 770,000 km^2, of all Amazonian rain forest has been wantonly destroyed. This newly created expanse of denuded wasteland is much larger than the entire surface area of England, Scotland, the Netherlands, Belgium, Luxemburg Germany, Austria and Switzerland combined. Countless species and the majority of the unique natural habitats on the planet's third largest island, Borneo, have been irrevocably destroyed since the first meeting of the Club of Rome by greedy entrepreneurs in the newly formed nation states of Malaysia and Indonesia, which share this great island with the small sultanate of Brunei. Most of the native species and unique natural habitats in the rest of mainland and insular Southeast Asia have been undergoing the same fate.

In his address to the delegates of the 20th anniversary conference of the Club of Rome, held in Paris in October 1988, prince Philip, the duke of Edinburgh, stated:

> No generation has ever liked its prophets, least of all those who point out the consequences of bad judgement and lack of foresight. The Club of Rome can take pride in the fact that it has been unpopular for the last twenty years. I hope it will continue for many years to come to spell out the unpalatable facts and to unsettle the conscience of the smug and apathetic.[116]

116 Alexander King and Bertrand Schneider. 1991. *The First*

FIGURE 12.12
Thomas Robert Malthus, image Wellcome Library, London

In 1798, over a century and a half before the founding of the Club of Rome, Thomas Robert Malthus had already spelt out unpalatable facts that have remained robustly unpopular ever since. Alongside Charles Lyell and Alfred Russel Wallace, Malthus was a major influence on Darwin, and his warnings are still often haughtily dismissed by the smug and apathetic. Malthus warned that unbridled population growth would guarantee the spread of poverty and the depletion of the world's resources unless some way were found to curb the global culture of human reproductive excess.[117] Since his *Essay on the Principle of Population*, population growth has been rampant, and our species has overrun the globe.

Global Revolution: A Report by the Council of the Club of Rome. New York: Pantheon Books.

117 Thomas Robert Malthus. 1798. *An Essay on the Principle of Population*. London: J. Johnson.

The problems facing us today and the measures to which we are now compelled to resort to save the biosphere are as tragic as they may prove ultimately to be futile.[118] In 1833, in the wake of the

118 Maj Rundlöf, Georg K.S. Andersson, Riccardo Bommarco, Ingemar Fries, Veronica Hederström, Lina Herbertsson, Ove Jonsson, Björn K. Klatt, Thorsten R. Pedersen, Johanna Yourstone and Henrik G. Smith. 2015. 'Seed coating with a neonicotinoid insecticide negatively affects wild bees', *Nature*, 521 (7550): 77–80; David Tilman, Michael Clark, David R. Williams, Kaitlin Kimmel, Stephen Polasky and Craig Packer. 2017. 'Future threats to biodiversity and pathways to their prevention', *Nature*, 546 (7656): 73–81; Terry P. Hughes, Michele L. Barnes, David R. Bellwood, Joshua E. Cinner, Graeme S. Cumming, Jeremy B.C. Jackson, Joanie Kleypas, Ingrid A. van de Leemput, Janice M. Lough, Tiffany H. Morrison, Stephen R. Palumbi, Egbert H. van Nes and Marten Scheffer. 2017. 'Coral reefs in the Anthropocene', *Nature*, 546 (7656): 82–90; Robert M. Pringle. 2017. 'Upgrading protected areas to conserve wild biodiversity', *Nature*, 546 (7656): 91–99; Matthew G. Betts,

warnings issued by Malthus, the English economist William Forster Lloyd expounded his theory of the inexorable despoliation of shared natural resources, adducing as an illustration the example of the overgrazing of the commons, land on which all members of the community grazed their sheep.[119] Following in the footsteps of Malthus and Lloyd, the ecologist Gerrit Hardin in 1968 coined the phrase 'the tragedy of the commons' to describe the dilemma of collective responsibility in the face of overpopulation and the unbridled exploitation of shared resources.[120]

In the 1980s, the economist Elinor Claire Ostrom studied the rules governing the sharing of resources in the tiny alpine village of Törbel in the Swiss canton of Valais as well as the community governance of irrigation in western Nepal,[121] where water is traditionally regarded as communal property that must be fairly shared by all and may be withheld from no member of the community. Her understanding of the Swiss and Nepali situations led to a 1990 monograph, in which some optimistically claim that Ostrom debunked the tragedy of the commons,[122] whereas the more cynically inclined have dismissed this work as a product of wishful thinking combined with selective sampling. In the face of the anthropogenic changes to the biosphere resulting from our collective ravishing of the planet, whether we like it or not, we all now serve as guinea pigs in a grand experiment the outcome of which, if we do not act in a timely manner and things do not go well, may very well end up vindicating Malthus and Lloyd with a vengeance.

Christopher Wolf, William J. Ripple, Ben Phalan, Kimberley A. Millers, Adam Duarte, Stuart H.M. Butchart and Taal Levi. 2017. 'Global forest loss disproportionately erodes biodiversity in intact landscapes', *Nature*, 547 (7664): 441–444; Pamela Z. Kamya, Maria Byrne, Benjamin Mos, Lauren Hall and Symon A. Dworjanyn. 2017. 'Indirect effects of ocean acidification drive feeding and growth of juvenile crown-of-thorns starfish, *Acanthaster planci*', Proceedings of the Royal Society, B 284: 20170778; B.A. Woodcock, J.M. Bullock, R.F. Shore, M.S. Heard, M.G. Pereira, J. Redhead, L. Ridding, H. Dean, D. Sleep, P. Henrys, J. Peyton, S. Hulmes, L. Hulmes, M. Sárospataki, C. Saure, M. Edwards, E. Genersch, S. Knäbe and R.F. Pywell. 2017. 'Country-specific effects of neonicotinoid pesticides on honey bees and wild bees', *Science*, 356 (6345): 1393–1395; N. Tsvetkov, O. Samson-Robert, K. Sood, H.S. Patel, D.A. Malena, P.H. Gajiwala, P. Maciukiewicz, V. Fournier and A. Zayed. 2017. 'Chronic exposure to neonicotinoids reduces honey bee health near corn crops', *Science*, 356 (6345): 1395–1397; Sarah de Weerdt. 2017. 'Sea Change: The increasing acidity of our seas is a threat to marine life that for many species may be impossible to overcome', *Nature*, 550 (7675): S55–S58.

119 William Forster Lloyd. 1833. *Two Lectures on the Checks to Population, delivered before the University of Oxford, in Michaelmas term 1832*. Oxford: S. Collingwood, printer to the university.

120 Garrett Hardin. 1968. 'The Tragedy of the Commons', *Science*, 162 (3859): 1243–1248. In a similar vein, the former Dutch prime minister Dries van Agt once sardonically quipped that *gedeelde verantwoordelijkheid is géén verantwoordelijkheid* 'shared responsibility is nobody's responsibility'.

121 In Nepal, Ostrom is remembered by those who knew her as 'Lin'.

122 Elinor Claire Ostrom, *née* Awan. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

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